

*Arncliffe*

AN

ELEMENTARY COURSE

OF

GYMNASTIC EXERCISES;

INTENDED TO

DEVELOPE AND IMPROVE

THE

*PHYSICAL POWERS OF MAN.*

---

By PETER HENRY CLIAS, Esq.

PROFESSOR OF GYMNASTICS AT THE ACADEMY OF BERNE.

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ILLUSTRATED BY SIX ENGRAVINGS.

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1823.

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G. SIDNEY, Printer,  
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TO HIS

ROYAL HIGHNESS

Frederick, Duke of York and Albany,

*Commander in Chief of the British Army,*

*K.G. G.C.B. &c. &c. &c.*

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SIR,

IN presuming to lay at your Royal Highness's feet a work, the principal object of which is the melioration of the Human Race, I feel that I am claiming for it that protection which a noble-minded and generous Prince is at all times ready to accord to every establishment of public utility.

Deign, Sir, to look with an eye of approbation on the efforts I have made to introduce into this country a system of Physical Exercises, tending to develope, in their greatest extent and perfection, the powers of the human frame; under the influence of which, the soldiers and sailors of Great Britain would soon become as renowned for adroitness and activity, as they are already for undaunted courage and ob-

stinate perseverance, amidst the most appalling difficulties and dangers.

When I reflect, Sir, that the taste of this nation, more than that of any other, evidently inclines to such exercises, and that it has within it already all the elements of Gymnastic Science, I feel that there wants only the introduction of a well-organized system to make them become popular and universally sought after. I feel also, that, with the recommendation and fostering protection of your Royal Highness, their success could not for a moment be doubtful.

Excuse, Sir, the freedom with which a very humble individual thus presumes to address your Royal Highness, and allow him to subscribe himself, with all humility and respect,

SIR,

Your Royal Highness's

Very obliged, and very obedient,

Humble Servant,

P. CLIAS.

# ADDRESS

## *TO THE BRITISH YOUTH.*

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DURING my sojournments in various parts of Europe, while employed in the introduction of my New System of Gymnastic Exercises, I have nowhere observed young persons to present a more ingenuous cast of countenance, or possess a more robust frame of body, than in England. Of their general manner and address I cannot speak so favourably. These deficiencies originate in the want of a proper physical education, by which the due developement of the muscles and the proper balancement of their bodies are neglected. These deficiencies it will be my pride and pleasure to supply ; and, with such materials to operate upon, I have no doubt

of being able, in a short time, to impart that grace and elegance of deportment which becomes the accomplished gentleman. To your Parents let me add, that of Two Thousand Pupils, whose physical education I have superintended, not one ever experienced even the most trifling accident.

## LETTER

*From the Directors of the Orphan School, at Berne,  
to Mr. Clias, professor of Gymnastic Exercises  
in the Academy of that City.*

SIR,

WE avail ourselves of this opportunity to assure you of our lively gratitude for the disinterestedness with which you have for five years bestowed on the pupils of our Institution your valuable Gymnastic lessons.

The introduction of these Exercises into our establishment has been productive of the happiest effects, as the health, and consequently the morals of the children, have considerably improved since that period.

The first is our most important remark, since it proves the invaluable advantages of bodily Exercises, which not only visibly influence the intellectual faculties, but destroy in the germ a dreadful vice, which tends every day to the deterioration of the human race.

It is undoubtedly to your distinguished talents that we are indebted for the pleasure of beholding

the strength of some hundreds of pupils entirely developed, without even the most trifling accident having occurred during the period you have superintended their Exercises.

The attention we have given the subject, enables us to declare that your system is founded on the best principles, and that it is impossible to direct the attention of youth in a manner more natural, than to those Exercises to which by nature they are so much attached.

Again repeating to you our sincere thanks, we have the honour to assure you of our very great esteem.

N. STETTLER, President of the Direction,  
Formerly Treasurer.

*Berne, 11th September, 1819.*



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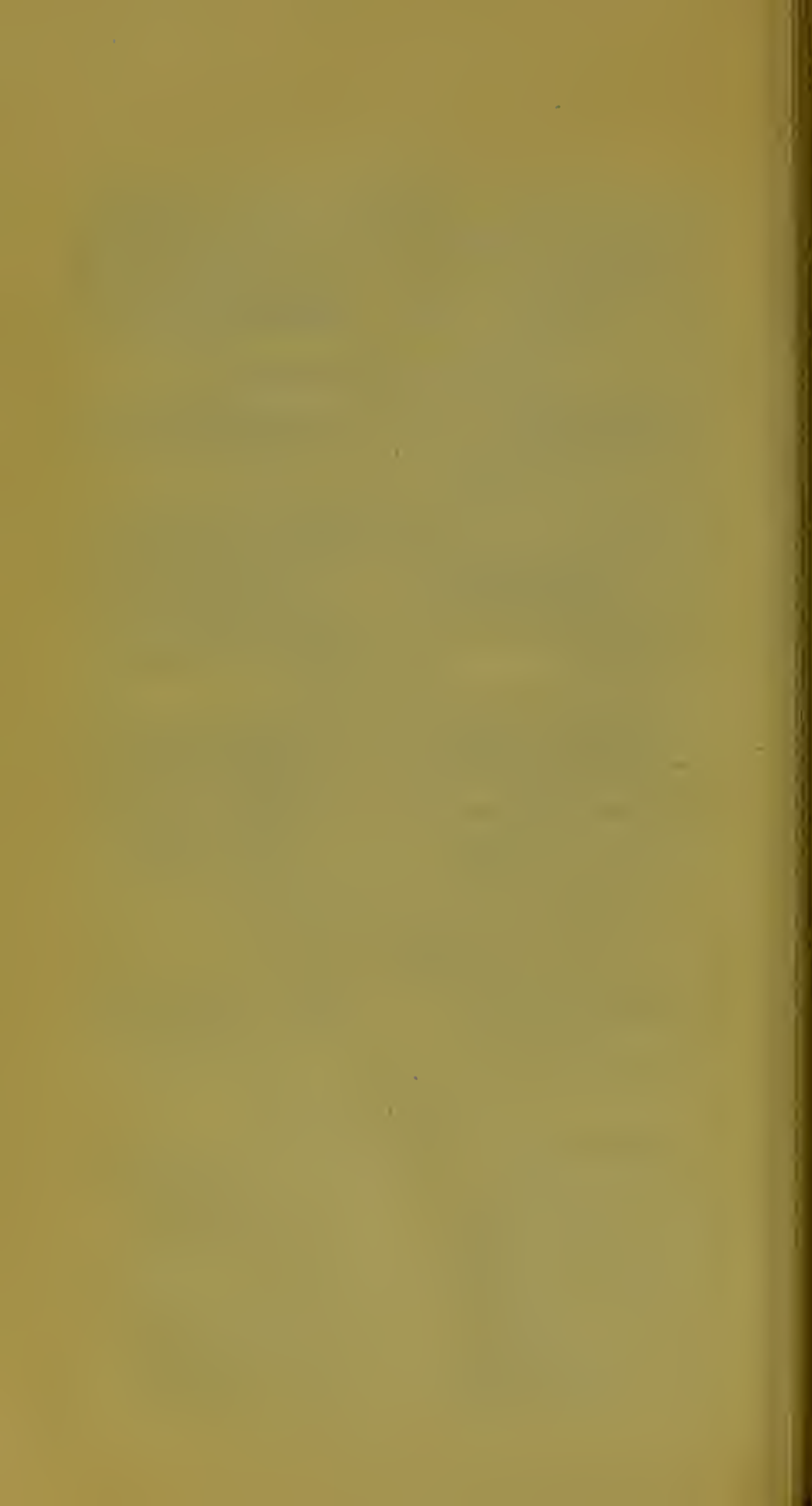
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# INTRODUCTION.

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Bodily exercise in general strengthens, and a sedentary life weakens the constitution. Therefore it is necessary to keep up the balance between body and mind.\*

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HAVING been occupied for several years in considering the manner of introducing Gymnastic Exercises into schools of elementary instruction, without interrupting the ordinary progress of lessons, and having repeatedly made the experiment in different establishments, I have the satisfaction to find, that my undertaking has been crowned with the most happy success.

In several trials I have made in England, I feel convinced that, in order to render this instruction practicable to the youth of both sexes, it is essential to present only the most simple movements; yet sufficient to develop their physical faculties, without occasioning any additional expense to the parents, and even without depriving the children of one moment of that time destined to their intellectual studies.

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\* Spurzheim's Elementary Principles of Education.

It is principally for that class of people the most numerous, as well as the most useful, that this abridgement is intended, because I am convinced, that physical education is to them particularly necessary. Their manner of life and daily occupations require a robust body and invariable state of health; and where shall they find the source of this precious treasure, if it be not in complete education, where, according to the most celebrated physicians in England, the exercises of the body and those of the mind will always assist in relieving each other.

The first course of exercises which we propose, is intended to awaken and augment the physical powers, which often remain torpid in the greater part of children brought up in large towns, where they seldom find an opportunity of developing their strength. Although each of these exercises, taken separately, present only the most simple movements, it is nevertheless advantageous in performing them to follow the order in which they are arranged. The experience of many years has produced abundant evidence, that the frequent repetition of these exercises would be attended with the greatest advantages. It produces much elasticity in the joints, and the frequent extension and contraction of the articular ligaments render these parts much more supple, give them greater consistence, and produce in the different



members of the body the greatest flexibility, without the risk of any accident whatever. All the individual\* and progressive exercises described in this work, are susceptible of being every where introduced: they may be performed in the smallest apartment, and require no particular preparation, expense, or place. With the superintendence of one master, each of these exercises may be performed at the same time, by a great number of children, and they may be arranged in such a manner, that the instructor, without changing his position, may in a short time fatigue the most robust boy, or manage him according to his will.

Besides promoting the health, these exercises have the advantage of imparting an agreeable air and easy manners, which never fail to prepossess much in our favour. It cannot be denied, that, in every situation of life, these qualities give much relief to the mind; whilst an unfavourable exterior and awkward manners often throw ridicule even on a man of distinguished merit.

It may be said, that modern Gymnastic Exercises, as well as mutual instruction, is one of the improvements of the present age. If the bene-

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\* By individual exercises are meant all those which are performed without the assistance of foreign agents, such as the movements which require only the simple action of the muscles.

volent authors of Elementary Instructions have had the noble intention of giving to the poor as well as the rich the key of human science in developing their understanding, it cannot be denied that physical education would be a most useful addition, by furnishing them with the means of self-preservation in the various occurrences incidental to life.

The elementary principles of this art are calculated to discover to man all the physical resources he possesses in himself, and if in mature age he should desire to practise the lessons he received in his youth, the whole field of nature offers, without expense, the most certain manner of preserving or re-establishing his health by agreeable exercises.

It would be superfluous to repeat here all that has been said in favour of Gymnastics; the principal design being the development of all the corporal faculties with which nature has endowed us, no one can deny its immediate influence on the physical, as well as moral state of man.\*

We will only add, that every one must have had frequent occasion to observe, that the body is often only a feeble instrument, and sometimes even a burthen, to him whose corporal faculties have never

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\* It is known, says Cabanis, that a good physical education fortifies the body, cures many diseases, and gives +



been sufficiently developed. The individual being composed of two parts, each of them ought to be alternately exercised, in order to attain at the same time to the general development of the individual.

Are we not every day convinced, by sad experience, that the greater part of the misfortunes which happen are occasioned by want of foresight, by awkwardness, or by the total failure of force in those who are the victims of them? How many parents would have preserved their children, if they had had the precaution to give them a more masculine education! A great number of those brave soldiers, who have irrecoverably lost their health, or who perished miserably in the late wars, would have been at present the consolation of their parents and the protectors of their families, if, by giving them a more vigorous education in their youth, care had been taken to accustom their bodies to fatigue, and to enable them to find, in their physical qualities, the efficacious means of

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organs a much greater aptitude to execute the movements required by our various wants; besides greater strength and extension of the faculties of the mind, greater equilibrium in the sensations, and those just ideas and elevated passions, which are connected with habitual sentiment, and to the regular exercise of a much greater force.

*Rapport du physique et du moral de l'homme.*

seconding their courage in the moment of extreme necessity.\*

It is easy to perceive, that in whatever condition nature might have placed man, he absolutely possesses only two methods of preserving himself from danger: one is by carefully avoiding every occasion that might involve him in it; and the other by arming himself against the unforeseen accidental events of life. Though apparently wisdom seems to point out the first of those methods as the safest and the best, yet we shall soon be convinced of the contrary, if we consider in how many difficult situations the most circumspect man might be unexpectedly and unavoidably placed, and consequently how often he may become the victim of his own incapacity. He, who has never been familiarized to danger, finds every where obstacles to encounter, and if urgent necessity, or false self-love, in-

\* The first knowledge is that of self-preservation. A severe and masculine education is always the best; it is that only which forms superior men; and of this the history of every age furnishes a multitude of examples.

(*Beranger Vertus du Peuple.*)

“Warriors full of courage,” says BALLY, “and politicians full of craftiness, may frequently be met with; but, of those men who have a great and noble character, the result of their sentiment and their strength, no one would have become famous on the earth, if his moral education had not been fortified by an excellent physical one.”

*Dictionnaire des Sciences médicales.*

duce him to surmount his fears, he has infinite pains to overcome these obstaeles ; whilst the man whose bodily powers are completely developed, (possessing ordinarily a spirit which nothing can depress,) is much less affected by the events of life, however unforeseen, melancholy, or terrible they may be. Habituated to danger from his infancy, he places greater confidence in his strength and address. He is inaccessible to fear, and the daring courage which we often admire in such a man, is absolutely nothing but the result of a conviction of his own powers. We may therefore conclude, without fear of deceiving ourselves, that he who has the means of preserving himself safe in all the accidental circumstances of life, ought consequently to be more capable of great actions, than he whose courage is paralyzed by the want of force and dexterity.

The general practice of bodily exertion which prevails among the People of England, and the just estimation in which excellence in the Physical powers are held by all persons, suggested to me the idea of attempting to introduce my system of gymnastic exercises to the British nation.

The present arrangement is published with a view to enable every person to judge of the merits of my plan by practise. From a short perseverance in exemplifying the exercises here described, he will be enabled to judge how far the general purpose is

likely to be successful in developing the physical faculties of man.

Should the present sketch meet with public approbation, I shall be encouraged to publish the details of my System in a more finished manner.

May this feeble production, which I now offer to the public, attract the attention of enlightened fathers and instructors; and at the same time engage every man of influence to protect a science which has for its principal end the establishment of a perfect equilibrium between the faculties of the body and those of the mind.

# GYMNASTIC EXERCISES.

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## CHAPTER I.

### EXERCISES OF THE LOWER EXTREMITIES.

#### *Of Walking, Running, and Jumping.*

OF all the gymnastic exercises, natation excepted, walking easily and erectly, running and jumping, deserve the preference; because they are the most natural movements of man and those which he has most frequently occasion to use. If we consider the physical qualities of young men destined to a military life, where the success of the greatest enterprises depends oftener on the rapidity with which they are executed, than on the quantity of force employed, we shall be convinced that walking, running, and jumping, carried to a certain degree of perfection, must overcome many obstacles in military expeditions, and in every situation in life produce great advantages to those who are capable of performing them well.

These considerations have induced me to give the first place to those exercises which are generally acknowledged to be the most useful and the most easy to learn, and those which especially contribute to the development of the strength and



the preservation of the health. In speaking of the walk, I mean that graceful and noble movement, by means of which the body, in transporting itself from one place to another, might increase or diminish the rapidity of its movements, without deranging the equilibrium or the union of the parts in action. To walk is to make a progressive movement. The body rests a moment on one foot whilst the other is advanced; then the centre of gravity of the body is made to fall from one foot upon the other, &c.\* It might be objected that, generally, every body knows how to walk, when not hindered by defects of conformation or accidental misfortunes; but my own experience has convinced me of the contrary; and if we give attention, we shall often have occasion to remark, that we see very few persons, however well formed, who in walking preserve a really erect position and an air of becoming confidence and dignity. This movement, well executed, evinces not only the force of the body, but, more than is commonly thought perhaps, the moral character of the individual. Walking may be considered in three different respects: first, with regard to beauty, secondly, to resistance, and thirdly, to promptitude.

*Preparatory Movements for Walking, Running, and Jumping.*

Experience proves to us every day, and some-

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\* Barthez.

times even beyond a doubt, that men generally possess a strong natural disposition to walking, running, and jumping, and that it is absolutely nothing but the neglect of corporal exercises in youth, which is the cause, that often in the moment of danger, the greater part possess not the means either of preserving themselves or of saving those who are dear to them. Force and agility being the principal qualities from which all our mechanical actions proceed, their development must necessarily have a powerful influence on our daily exercises, and communicate at the same time the power of executing with facility and velocity all sorts of movements in different directions. It is only by possessing these qualities in a certain degree of perfection, that we can acquire an easy, light, and confident gait, be able to support fatigue for a long time, and travel great distances without suffering thereby any material injury or inconvenience. Though these qualities are derived from the source which we have indicated, it is, however, seldom that the same individual possesses them all in an equal degree; and as it is evident that the bodily dispositions and daily habits have the greatest influence on the walk, it will be advantageous to accustom young persons early to a great variety of elementary exercises, in order to destroy in their origin the bad habits which they are inclined to contract, and to prevent at the same time many corporal defects.

EXERCISE I.—*Ordinary Step.—Explanation of preparatory Movements.\**

At the word of command—"In place,"—all the boys advance upon the same line, preserving between each other the distance of the arm's length. At the word,—“In line,”—each boy places his right-hand on the left-shoulder of the next, extending his arm at full length, and turning his head to the right. At the word,—“Dress,”—the arms fall down by the side, and the head returns to the first position. The master places the boys in the following manner: the head up, the shoulders back, the body erect, the stomach kept in, the knees straight, the heels on the same line, and the toes turned a little outwards. All things being thus arranged, the master, standing in front, announces the exercise they are going to perform, taking care above all to explain clearly the movements which each boy ought to make. For example: Ordinary step, in place, explanation. At the word,—“Forwards,”—each boy places his hands on his sides, extending his fingers round the

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\* When many boys are to be instructed at the same time, it is indispensably necessary to establish a military discipline, in order that they may execute the greater part of the elementary exercises together. And when these exercises are performed in a room, the boys should be furnished with horse-hair or list shoes.



waist, and remains so.\* At the word,—“ March,”—each advances his left foot, the knee straight, and the toe inclined towards the ground, and counts one, two, placing his foot on the ground, the toe before the heel, and raising the other immediately, and thus continues to march, keeping time in a low voice, till the word,—“ Halt,”—is given. Then all the movements cease, and the hands fall down by the sides. After this explanation, the master, standing in front, performs himself, with exactness, the exercise he proposes, in order that each may imitate him. After he has made each boy singly perform the exercise he has made before them, he makes two or three repeat it together, then four or six, and afterwards the whole, requiring above all, that they execute each movement altogether, that is, that they lift up and set down the left foot at the same time. The master should carefully observe, that each boy executes this step with ease and agility: he should also strictly require, that they preserve, during all their movements, the above-mentioned erect position of the body.

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\* By pressing the hands strongly against the sides, the force of the lower extremities is much augmented, and the body maintains its position with more ease and firmness than when the arms are pendant by the sides.

## EXERCISE II.—*Changes in Place.*

As soon as the master perceives that his scholars keep themselves well upright, he makes them, while remaining in their places, execute different changes, sometimes to the right, sometimes to the left. Then he makes them march in ordinary time, advancing upon the same line in single or double column,\* always observing the position of the body, and requiring that they move all together.

## EXERCISE III.—*Double Step.*

In the double step, the feet must move twice as quick as in ordinary time. The master must observe the same progression as in the preceding Exercise ; that is, he must make them march, and execute the changes in place, till they are able to perform them well ; then he makes them march backwards or forwards, sometimes in a column, and sometimes in front.

## EXERCISE IV.—*Triple Step.*

This differs from the double step, only by the greater rapidity with which the paces succeed each other. The same rules are to be observed as in the preceding Exercises.

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\* Two files, one upon another.

### EXERCISE V.—*Oblique Step.*

This is performed from right to left, or from left to right. At the word of command—"Left Oblique," or "Right Oblique," all move to the side indicated, each one raising his foot (suppose the right) without deranging the position of the body, and setting it down again plain, counting one, two. One is for moving off the right leg, and two for bringing the left, on which the body rested, up to the right, which, in turn, supports the whole weight of the body.

### EXERCISE VI.—*Cross Step.*

The cross step serves to render flexible the knees and other articulations, to fix the position of the body, and to give a grace to the shoulders. It is performed in two ways; from left to right, and from right to left. When it is made to the right, the left leg moves first, passing behind the right; then the right leg moves in the same direction, the centre of gravity of the body falling alternately on each. The contrary takes place when the step is made to the left. This exercise may be varied, by making the leg which crosses pass before the other instead of behind it.

### EXERCISE VII.—*The French Step, or March, on the points of the Feet.*

This exercise may be regarded as preparatory

to running and jumping, as it greatly developes the interior muscles of the legs and thighs, and particularly strengthens the joints of the toes. Besides contributing to make the walk erect and elegant, it has the advantage of habituating those who practise it, to preserve their equilibrium on the narrowest bases. The boys are to be placed on one line in the manner above described. At the word of command—"On tip-toes, in place," each boy places his hands on his sides, and waits for the word—"Rise," when they all gently raise themselves on their toes, joining the heels together and keeping the knees straight, and remain in this position till the word—"Rest," is given, on which they fall back lightly on their heels, their hands at the same time falling down by their sides. Afterwards the different steps, described in the preceding Exercises, may be made in this position, advancing, retreating, or marching sideways, at pleasure.

#### EXERCISE VIII.—*Walking on the Heels.*

This action has also the advantage of strengthening the lower extremities, and may be performed either advancing or retreating. During this exercise the knees must be kept straight, and the breast forward.

#### EXERCISE IX.—*Kicking.*

This exercise consists in throwing the feet alternately straight forward, as if forcibly striking at

some object in front, and it may be made either advancing or retreating. When well performed, it acts powerfully on the muscles of the back and other parts of the body. It is also very useful as a means of defence against the attack of an animal, and also against that of many other enemies. The inhabitants of the mountains, and in many European countries, fight in this manner, without making use of their hands, which they place in their bosoms or on their backs.\*

#### EXERCISE X.—*The broken Step.*

In the broken step there are three quick paces, and three in a slow trot. This pace possesses great advantages in forced marches, and where it is necessary to travel far in a little time, without regarding the local obstacles. After being a little habituated to it, one may travel two leagues an hour, and continue at this rate for several hours successively, without being much fatigued; for the alternate change from the quick step to the trot, gives time for the lungs to dilate themselves, without any great effort. During the quick step the muscles, and the articulations of the lower extremi-

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\* The Highlanders, in Scotland, and the inhabitants of Gouggisberg, in Switzerland.

The Chinese fight entirely by kicking with their feet, and hit their adversaries most severe blows with the heel upon the head.



ties, enjoy a momentary repose, and acquire new power.

### EXERCISE XI.—*The Tick-Tack.*

This is a quick movement and consists in striking the feet distinctly on the ground. The first consists of four times, the second of five, and the third of seven. It may be performed first in place, afterwards in any other direction, and with greater or less rapidity. In whatever direction the movement be made, the stamping of the feet should always be continued as it was begun. To execute the first movement in place, it is essential that the body be kept in the most erect position. The arms are placed a-kimbo, and the heel of the left foot is placed before the hollow of the right, when it is this foot which gives the blow. The first movement consists in throwing all the weight of the body on the left side. In this position, the first time is formed by raising the right foot in a perpendicular direction, then placing it plain upon the ground, counting *one* ; the left foot, so to speak, finding itself driven from the side, strikes one blow lightly against the ground with the toe, and another with the heel, and is then placed plain on the ground: then, all the weight of the body resting on the latter, the right foot, which is raised and set down again immediately, forms the fourth time. In this exercise each foot strikes two times. The first time is made by the right foot, which is raised and placed down

again immediately. The second and third are made by the left foot, which strikes two quick blows against the ground, and places itself immediately plain; then the right foot, which is quickly raised and placed down again, makes the fourth time. The same exercise, with five times, only differs from the first by the last stroke and the rapidity of the movement. The three first times are performed as above described, but, at the fourth, the foot, which gives the blow, strikes twice following, which makes the five times. One with the right, two with the left, and two with the right. The same exercise, of seven times, has this in particular, that, after having executed the five first times in the manner above described, the two last are made by striking two additional blows, the first with the left foot, and the other with the right. In order to perform this exercise with great facility, it is necessary to bend a little on the articulations of the lower extremities of the side where the motion is given, and, at the same time, to make the movements of the feet with great ease and suppleness.

From the description of these Exercises, it is easy to perceive how much they contribute to develop the force, the suppleness, and the agility, of the lower extremities. The hip, the knee, and the muscles of the thigh, which makes the movement, are the parts which are the most fatigued. The striking of the toe and the heel, as well as the momentary station of the other foot, are very ad-

vantageous for augmenting the force of the muscles of the calf, and the suppleness of the instep. In order that one part may not acquire greater force than the other, without acquiring the same agility, it is indispensably necessary often to change the legs for giving the blow.

## BALANCING ON THE FEET.

### *Introduction to Dancing.\**

The following position must precede these Exercises. The body erect, the heels on the same line, the head up, the shoulders back, the arms in the air and parallel with the head, and the hands shut.

### EXERCISE I.—*Balancing on one Leg.*

This movement is made always in place, sometimes on one leg, and sometimes on the other. At the word of command—"On the left leg balance," the arms are raised parallel to the ears, and the

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\* In order to perform these exercises well, the boys must be formed into two ranks, preserving between themselves a sufficient space to prevent their movements from being interrupted. This should also be the case in the greater part of the individual exercises of the superior extremities. When they are placed in a line, at arm's-length, they are counted off by fours, then the word of command is given :—"The odd numbers two paces forward ; march !" and, by means of this simple evolution, two ranks are formed, and the intervals are doubled.



right leg, extended, is raised as high as possible, counting one, two, in placing it again on the ground, the heel of the right foot before the ankle of the left; this is immediately moved backwards and brought again to its place to raise the other, which is then lifted up, and so on in succession. This movement ought to be executed in equal times. During this action the upper part of the body and the arms are always inclined in the direction opposite to the raised leg. When it is the right leg which is raised before, the upper part of the body leans backward; the contrary takes place when the left leg is raised behind. When it is intended to change the leg, without interrupting the measure, that which is behind must be moved forward. It should be carefully observed, that the heel of the foot which is raised, ought always to be placed before the ankle of the foot which is behind. The rapidity of the measure must not be increased till the movement be executed with great facility and exactness.

EXERCISE II.—*The Shool Step, or Balancing Pace.*

To perform this the body must be erect, the arms and breast kept forward, and the head up; then one of the feet, for example, the left, is raised in front, the knee straight, and the toe inclined towards the ground. This position, must be preserved a moment, then the foot is placed again on the ground, and the other raised behind, the knee and the instep extended; then, having

remained a short time in this position, the leg is gently moved forward, without deranging the upper part of the body, and after balancing an instant in this position, the foot is again placed on the ground, and so on in succession as long as the exercises continue. In order to perform these movements well, not more than three paces in a minute should ever be made.

By these movements frequently repeated, the habit of moving freely is obtained, and an easy, erect, and confident walk is insensibly acquired.

### EXERCISE III,—*The Pace of three Times.*

This Exercise can only be performed in two ways: first in walking forwards, secondly in walking backwards. In the first case, one foot is advanced and the heel placed on the ground first, counting *one*, then the toe is placed on the ground, and the heel at the same time raised, counting *two*, and then the heel is again set down, counting *three*, and the foot remains plain. The same movements are afterwards made with the other foot. This Exercise, as well as all the others, should be commenced in slow time, in place, sometimes making the step forwards, and sometimes backwards, then the double step, the quick step, in place, and afterwards the same thing may be repeated in advancing or retreating. When this exercise is performed in retreating, the feet act in a manner contrary to that

just described. In moving the foot backwards the toe touches the ground first, *one*, then the heel, *two*, and the toe being raised and placed immediately on the ground makes the third time.

These Exercises are very advantageous for increasing the force of the active station. The slight vibration which is experienced in the abdomen, by the repeated shakings of the three blows which the feet alternately make on the ground, produce, on persons affected with intestinal obstructions, a movement more gentle, salutary, and various, than the ordinary walking pace.

#### EXERCISE IV.—*First Balance.*

To make this balance, one of the legs, for example, the right, must be slowly raised, taking care to lift up the heel before the toe, and without deranging the position of the upper part of the body; the knee must be raised to a level with the stomach, then the right falls gently down between the thighs, grasps the instep of the raised foot, and remain there.

#### EXERCISE V.—*To touch the Ground.*

The boy, being placed as we have seen, leans the upper part of the body forward, bends upon the leg which supports it, and endeavours to touch the ground with the knee of the leg which is

raised up.\* Having touched the ground, he must raise himself again, without letting go his leg or losing his balance, and return to his first position.

#### EXERCISE VI.—*The Cross Touch.*

Without deranging the position of the body the left leg is raised gently behind, and the right hand falling back seizes the instep of the left foot, then, bending gently on the right side, he touches the ground with the left knee, and raises himself again, without letting go his foot.

#### EXERCISE VII.—*The touch of the Toe.*

After having gracefully extended the arms, one of the legs, for example, the right, is raised and extended backwards, the knee and the instep being kept straight, and the arms and upper part of the body inclined forwards. When the raised leg has gained its highest point of elevation, the body bends upon the other, till the toe of the foot which is raised touches the ground, without being obliged to lower very much the leg. As the toe touches the ground the breast will rest on the left knee. The balance must be still preserved, and the body raised again very steadily, till it has recovered its first erect position.

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\* Here the weight of the body rests on the left leg, whilst the knee of the right lightly touches the ground.

### EXERCISE 8.—*The touch of the Heel.*

From the position indicated in the preceding exercise, one leg is stretched forwards, and, by bending the other, the body is gently lowered till the heel of the extended foot touches the ground; then the body is again raised up, without losing the balance or changing the position of the extended leg.\* These exercises, as well as the preceding ones, may be considered as the best introduction to dancing, because the greatest part of them tend to accustom young persons to assume and preserve different balances, whilst, in every sense, they gracefully develope all the members of the body.

### EXERCISE 9.—*Changing Guard.*

This Exercise is made alternately on both sides. Its use is to increase the force of station, and the correctness of the view. Placed on guard to the right, that is, in the same position in which one is placed for taking a fencing lesson on the right hand, and especially standing firm on the legs, the change is made from the right by bending a little on the lower extremities, and, by means of an impulse, or spring, changing places with the feet by raising them, and setting them down at the same time, the

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\* It is understood that all these exercises are executed with the two legs.



right in the place of the left, and the left in the place of the right. The position is then, on guard to the left.\* In the beginning it is necessary to give the body a little impulse by extending the arms first in the opposite direction, and then throwing them forcibly that way in which the body is moved. This preparatory movement serves to collect the forces before making the spring. In order to be placed again on guard to the right, the movements which have been made in changing to the left, must all be made in the reverse order. In the first change it is the right foot which is behind ; now it is the left which takes its place, and by this evolution the boy finds himself in the same position in which he was at the beginning, that is, on guard to the right. This change ought to be made with great promptitude and confidence, and several times successively. In this, as in all other exercises, the quickness must be increased in proportion to the progress that is made. In the beginning, particular care must be taken to fall with exactness, that is, the two feet on the same line, and the body erect.†

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\* The hand may be changed also, by quickly moving back the foot which is before, and taking the foil in the other hand, without, as it were, letting go the sword.

† Besides the advantages that may arise from this movement in an attack made with arms, when one thrusts indifferently with both hands, I have observed in this evolution the merit of an excellent gymnastic exercise. The spontaneous action which it produces on the whole body greatly fortifies the lower extre-

EXERCISE X.—*The Walk near the Ground.*

This is a repetition of the preceding exercises. It serves particularly to increase the strength and elasticity of the muscles and joints of the lower extremities. The tiresome position the scholar is obliged to keep during that movement has the advantage of preparing him for exercises still more difficult. Being placed on the beam, as on horseback, he raises the foot, (for example, the right,) which he places flat on the beam, the heel as near the upper part of his thigh as possible : he then raises himself on the point of the foot, in carrying the weight of the body before him, without touching the beam with his hands ; the left leg ought to hang perpendicularly, the point of the toe towards the ground. In this position he must keep the balance for some minutes ; after which he must stretch his leg out before him, (*See Plate 4, Fig. 16 ;*) place the heel on the middle of the beam ; carry, with the assistance of the point of the right foot, the whole weight of the body on the other leg, observing still the same position, and this alternatively till he comes to the end of the beam.

As soon as he can thus, with easiness, go forwards on the beam, without the assistance of the master, the scholar should try to go backward, keeping the

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mities and the loins ; and the habit which is contracted of falling with exactness on both feet at the same time, and of quickly changing the hand, notwithstanding the violence of the movements, is a great resource in an obstinate defence.

same balance as in the preceding exercise. Going forward, it was the point of the heel which acted ; now he is supported by the toes. The leg which hangs is stretched backward, till the toes are so placed on the middle of the beam, that he can on them carry the whole weight of his body.

To execute this movement well, and to act so that the toes can easily find the middle of the beam, it is indispensable to observe to the scholar, that his hip, his knee, and heel, forming a right angle, the point of his foot will infallibly find the middle of the beam, if his body is well placed, and he keeps a just balance.\*

### *Of Running.*

Running only differs from walking by the rapidity of the movements. It may be seen by that how useful and natural it is to man. The advantages which this exercise produces are incalculable: its salutary effects operate in a very visible manner on the individual who practises it, and are reproduced in all the circumstances of his life. Running favours the development of the chest, dilates the lungs, and, when it is moderate, preserves this precious organ from the most dangerous and

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\* Since my arrival in this Country, I have found that the exercise of walking is carried to an extent of which I had previously no idea. The celebrated Capt. Barclay's walking 180 miles without resting ; and still more, his hitherto unparalleled exertion of doing 1000 miles in 1000 successive hours, are truly surprising, and afford strong proofs of what may be effected by persevering exercise.



inveterate diseases. This exercise, in contributing much to render us healthy and vigorous, may also enable us to avoid innumerable dangers. In effect, how many persons have been victims to their incapacity in this exercise! How many unhappy soldiers would have escaped a hard captivity, and even a cruel death, if they had been accustomed in their youth to run fast and long. Often do unforeseen circumstances oblige us to hold our breath a long time, and to run with the greatest possible rapidity, when our dearest interests force us to the rescue of those whom we most dearly cherish; and our own preservation may frequently depend on the celerity with which we pass over any given distance. What are the consequences of an exercise so violent, when we have not been previously prepared for it? Sometimes the most serious diseases, the vexation to see an enterprise fail on which our welfare depended; or, what is still more cruel, to see persons the most dear to us perish before our eyes, whom we might have saved had we arrived a few seconds sooner. Without the fear of hazarding too much, we may assert, that it is the same with running as it is with walking. If we see but very few persons run with grace and agility, we see still fewer run fast and continue it for a long time. There are many who can scarcely run a few hundred paces without being out of breath and unable to go farther, because they perform that movement under a real disadvantage. Some, by swinging their arms with

too much violence, agitate the muscles of the breast, and thereby compress the movement of respiration; others, by bending their knees and throwing them forward, and by making long paces, fatigue themselves very soon, and also lose a great deal of time. Those who raise their legs too high behind advance but very little, though they labour very much. It is also very disadvantageous, whilst running, to throw the upper part of the body backward, to take too large strides, to press too hard upon the ground, and to respire too rapidly. To run fast and gracefully, one should, as it were, graze the ground with the feet, by keeping the legs as straight as possible whilst moving them forward, raise oneself from one foot upon the other with great velocity, and make the movements of the feet rapidly succeed each other. During the course, the upper part of the body is inclined a little forward, the arms are, as it were, glued to the sides and turned in at the heights of the hips, the hands shut, and the nails turned inwards. The master not only ought to take care that the boys do not contract any bad habits that may render running difficult to them, but he ought also to teach them all the little advantages which, by rendering it more easy, furnish them with the means of avoiding whatever is injurious to the health. It is indispensably necessary, that the instructor be a good runner himself, and well exercised in the different sorts of running; for he ought often to follow his scholars to prevent their making false move-

ments, and especially to watch lest they force themselves too much. It is only by following them and arriving at the goal with them, that he will be able to judge of their strength, and of what they are capable of supporting. In following them whilst running, he will observe those who respire too fast, or who tire themselves to no purpose by raising their legs too high behind, and at the end of the course he will take care that they lean the upper part of the body a little forward to facilitate their respiration.

## PREPARATORY MOVEMENTS.

### EXERCISE I.—*Running in Place.*

This exercise serves to give great play to the hips, accustoms the boys to throw out their feet properly whilst running, and gives the instructor an opportunity of regulating the movements of respiration.\* At the word of command,—“Forward,”—the boys bend their arms to the height of their hips, the fist closed, and the nails turned in. At the word—“March,”—each moves forward,

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\* It is very advantageous to accustom young persons to make long inspirations whilst running. “The continued concurrence of the contraction of the diaphragm, and of the action of the air contained in the lungs, makes the repetition of the movements of respiration less frequent, and at the same time it insures to the chest a considerable degree of dilatation and firmness.” (Barthez.) It may be seen by this, that it is only by a continual and well-directed exercise that we can acquire, what is commonly called, a strong breath.

his left leg extended, the toe lower than the heel, and counts *one*; on placing it again on the ground, he immediately raises the right leg, which makes the same movement, and counts *two*; and thus continues counting *one, two, one, two*, in equal times, till the word,—“Halt,”—is given. As soon as the instructor perceives that his scholars are well confirmed in their paces, he may make them pass at each return of the exercise, from the ordinary step to the quick step, and from this to the precipitate step, and afterwards in an inverse order; that is, to return to the first pace, observing the same gradation. The voice of the instructor must always direct the movements.

#### EXERCISE II.—*To Rise and Fall with Exactness.*

To accustom young persons to take the position of running, the instructor places his scholar, the right foot forward, the fists shut, the arms close to the sides, and the whole weight of the body bearing equally on both feet. Things thus disposed, the instructor gives the command for starting, and follows his scholar, counting *one, two, one, two*, and gradually increasing in swiftness. He carefully observes, that the boy always rises and falls plain on the bottoms of his feet, and that, whilst running, the upper part of his body is inclined a little forward. The arms should be neither too stiff nor too slack, but should follow naturally the impulse communicated to them by the other parts of the body.



### EXERCISE III.—*Running in a Square.*

As soon as the boy is able to run with exactness on both his legs, that is, as soon as he is able to preserve a perpendicular position of the body, he may be made to run round a square, in the middle of which stands the master. To exercise him equally on both legs, make him run sometimes with his right shoulder within the square, and sometimes with his left.

### EXERCISE IV.—*Spiral Running.*

As soon as the boys can perform the preceding exercise with facility, make them run round a circle, increasing continually in rapidity, and diminishing the circumference of the circle in proportion as the running is accelerated. They must be accustomed to execute this movement on both legs, for the design of this exercise is to habituate them to turn short on both sides, even in the middle of the most rapid running. This great facility of turning short, in the middle of a course, produces very great advantages to runners; it often preserves them from falls, or from meeting any dangerous object.

### EXERCISE V.—*Sinuuous Running.*

The plays of the “Wolf’s Tail” and the “Winding Run,” performed by many children, are also very commendable, considered as elementary exercises for running. The first is too well known to need any description. With respect to the sinuous, or winding run, it differs from common running in the following particulars. The boys are



all placed in a line, about one pace distant from each other ; and the quickest and best runner is generally the leader of his companions. Being thus placed, at the word of command, " On guard," they take the proper position for running, and at the command, " March," the joyful company put themselves in motion, and follow their leader, who makes them describe in running sometimes a curve, sometimes a semi-circle, sometimes a circle. Now he advances, now retreats, turns sometimes to the right, sometimes to the left, and all this whilst running with great rapidity. The whole line should follow upon the footsteps of their leader.

EXERCISE VI.—*Doubling the Line.*

In order to judge of the progress which the boys will have made in the preceding lessons, choose those who appear the most developed, and make them double the line ; that is, whilst swiftly running, to turn short at any point indicated by the master, and return to that from which they started. They may then be accustomed to make, whilst running, an entire turn, and afterwards to turn several times in passing over a straight line of fifty or sixty paces. A runner who shall have carefully made all the exercises which I have indicated, will be able to overcome or avoid, with the greatest facility, the different obstacles he may happen to meet with in his course.

EXERCISE VII.—*Running with a Stick.*

To hinder the boys from turning up their legs

too high behind whilst running, and in order to correct those who have this defect, and to force them to run off in spite of themselves, two of the best runners take hold of the ends of a stick, from four to five feet long, one with the right hand, and the other with the left. The boy who is to be exercised, takes hold of the stick in the middle, with both hands, his nails turned downwards. The two leaders place themselves in the position for starting, (the right foot one pace before the left), and the other boy in the same manner. (*See Plate 4, Fig. 17.*) At the command of the master, they start together; the conductors taking care not to run too fast for their companion.

As the continuation and the rapidity of running depend absolutely on the power of the lungs, the suppleness of the hips, and the agility and strength of the thighs, legs, and feet, I confine my scholars to a great many preparatory exercises, which fortify and supple these parts, before making them undertake things too difficult, because I am convinced. that when the powers are once well developed, young persons may make, without inconvenience, many violent exercises, which would be injurious to them, if they were allowed to practice them too soon. Sufficiently prepared by the preceding exercises, they may now practise, without any danger, the different sorts of running. Running may be divided into, 1st, Running moderate, continued or of long breath; 2dly, Prompt or accelerated; 3dly, Rapid or precipitate.

EXERCISE VIII.—*Running Moderate.*

As it is required, here, to continue a long time in the same pace, it is very advantageous to run gently, in equal time, and to fix the distance that is to be passed over, in order to know exactly the time employed for arriving at the end ; then, to execute the movements well, and to observe the position of the body whilst the running continues. For example, on a fine day in autumn, when the weather is fresh, make your scholars run a mile in nine minutes, and repeat this lesson till you see they are not much heated when they arrive at the end. Afterwards, make them double the distance, without allowing them to stop, which they will easily do if they are well prepared. Many of my scholars run, at this pace, the distance of two leagues in fifty minutes.

EXERCISE IX.—*Prompt Running.*

In this pace, which cannot be continued a long time, because the movements are performed twice as fast as in the preceding run, it is proposed to run over the distances already indicated, in less time than in the continued run : for example, a quarter of a league in three minutes, and afterwards in less. Many of my scholars run a thousand paces in two minutes, without being much heated.

EXERCISE X.—*Precipitate Running.*

Here it is proposed to run over a short space in very little time ; therefore, it cannot be too strongly

recommended to the boys to make the simple pace succeed to the greatest rapidity. Though this exercise presents many difficulties, we may, nevertheless, by repeating, attain to a degree of perfection really astonishing. At the last examination which I obtained, in September, 1818, one of my scholars, aged 15, ran seven hundred paces in one minute and two seconds. It may be observed, that the runners experience many more difficulties in the wrestling place than they meet with elsewhere; first, because they are obliged to turn often, and, secondly, because the course is covered with deep sand, which must necessarily impede their progress.

*Note.*—When it is intended to make the boys run one against another, it is essential, in fixing the mark, to determine the distance to be run, according to the age and strength of the runners.

Whilst running, it is forbidden for any one to employ unfair means to throw his competitor, or to place himself before him, in order to outrun him without trouble. Each must run straight forward.

In the simple run, he who touches the mark first is acknowledged the conqueror. If the course is doubled, that is, if, after having gained the goal, they turn without stopping, one to the right and the other to the left, to return to the place from which they started, then the instructor himself should serve for a goal, in order that he might, at pleasure, and according as it may be necessary, increase or

diminish the distance, which the runners have yet to pass over. If he perceives that they are fatigued, he goes to meet them, which will very much encourage them. If, on the contrary, he sees that they are still vigorous, he may prolong the course, by retreating a few paces. This manner of moving the goal backwards or forwards, at pleasure, during the course, has the double advantage of moderating those who have too much ardour, and of encouraging those who have too little. The first distance that children of from eight to ten years of age may be made to run, is about two hundred paces ; the second, for those more advanced, three hundred ; and the third, for adults, four hundred.\*

### OF JUMPING IN GENERAL.

Of all the corporal exercises, jumping is, without contradiction, the finest and the most useful. As it cannot be executed with facility, but in proportion to the strength, the elasticity, and the suppleness of the articulations and muscles of the lower extremities, much exercise is necessary in order to attain to that degree of perfection which smooths every obstacle, or furnishes us with the means of overcoming them without danger. In a fire, or an inundation, it is often by means of a determined

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\* The Highlanders of Scotland have, indeed, always been celebrated for their pedestrian efforts. In the history of Gustavus Adolphus it is stated, that the Highlanders in his service were able, under the weight of all their accoutrements, to keep pace with the cavalry in their most rapid evolutions, and were of most important service, in charging along with the horse.



jump, that we escape the most imminent danger ourselves, or render important services to our fellow creatures. In a carriage, often at the mercy of a coachman asleep or intoxicated, riding on an unruly horse, and in a thousand other circumstances, a jump, made with promptitude and assurance, might save our lives, or preserve us from fracturing our limbs. Lightness and perpendicularity constitute all the merit of jumping: the utmost ought to be done to acquire these two qualities, for, without them, jumping has neither grace nor security.

*Remark.*—To jump with grace and assurance, one should always fall on the toes, taking care, especially, to bend the knees and the hips;\* the upper part of the body should be inclined forwards, and the arms extended towards the ground. The hands should serve to break the fall when one jumps from a great height. By falling on the heels, the shock, which, in this case, is communicated from the extremity of the vertebral column to the crown of the head, will occasion pain in these two parts, and may be attended with very bad consequences. It is also useful to hold the breath, whilst jumping, for, in all the efforts that we make, the retention of the breath, by preventing the blood from circulating with rapidity in the lungs, makes it flow into the members which are in movement, which greatly increases the strength of those parts.

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\* This bending, which decomposes the movement, renders it much more easy.

## PREPARATORY MOVEMENTS.

EXERCISE I.—*Raising and touching behind, in place.*

ALL my scholars are ranged on the same line, one pace distant from each other, the head up, the shoulders square, the hands shut, the arms pendant by the sides, and the heels on the same line. At the word of command, *Raise behind*, in place, (that is without advancing or retreating,) each boy springs from the ground with both feet at once, and endeavours to touch the upper part of his thighs with his heels, and falls lightly again on the points of his feet. To *Raise before*, in place, the boy, in jumping as high as he is able, does his utmost to make his knees touch his shoulders. These two Exercises are also made both in advancing and retreating.\* The instructor ought always to observe that his scholars assemble well; that is, that each one bends on the lower articulations, and augments the impulse by throwing his arms in the direction of the jump which he is making, remembering at the same time to keep his fists shut.†

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\* The raising behind, and the marching in place, may be considered as preparatory exercises for those which precede.

† The arms of a man taking a leap ought to be thrown forcibly towards the place which he proposes to reach. This action greatly increases the impulse, and serves to preserve the body in a perfect equilibrium.

EXERCISE II.—*Tramplng on the Ground, in place.*

This exercise, which is generally performed in place, is done in two different manners; in the first, the lower articulations are bent; in the second, they are stretched. It has four different paces, the moderate, prompt, accelerated, and precipitate, paces. In the moderate pace, with the articulations bent, at the word of command, *Trample*, the knees are moved a little forward, the heels raised from the ground, the body rests on the fore-parts of the feet, the fists are shut, and the arms are bent on the hips, or extended by the sides of the body. At the word *Firm*, the feet are alternately raised a little distance from the ground, observing the proper measure. The legs are kept as close together as possible, and the same gradation should be observed here as in the preceding exercise; that is, we must not go on to the prompt pace, till the boys are well confirmed in that which precedes it, and so with respect to the accelerated and precipitated paces. In order to diminish or increase the rapidity of the movements, the instructor may make use of the words, “slowly,” “gently,” “quick,” “rapid,” &c.

To perform this exercise with the lower extremities stretched, the weight of the body must rest on the bottoms of the feet, and the knees must be kept straight. The stomach should be kept back, without, however, leaning the body too forward. The movements of the feet, and the position of the

arms, are the same as in the preceding exercises. This movement, very simple and very easy to perform, is particularly useful to persons confined to a sedentary life; it may be executed in a very small place, without making either noise or dust. It is especially proper for persons who are subject to affections of the stomach, because the movement of the feet, which are alternately raised with velocity and in equal times, a little distance from the ground, produces in the abdominal region a movement which fortifies these parts. The movements of the feet may be retarded or accelerated in proportion as the exercise is required to be more or less violent.

### EXERCISE III.—*Walking Pace, in place.*

The boys placed on the same line, and in the position above indicated, the exercise they are about to make is announced to them; for example, the walking pace, in place, at the word of command, *Forward*, they all raise their arms in the air, or keep them a-kinbo, as in the running, in place, the fists shut, the breast forward, the head up, and the body erect, without stiffness or negligence. At the word *March*, each boy, without deranging the upper part of his body, counts one, raises his left foot, with the toe inclined towards the ground, and brings his knee as near as possible to his breast; then he counts two, places the left foot on the ground, and raises the right immediately in the

same manner as he had done the left, and so on in succession, till the word of command, *Halt, line*, is given. The movements of the feet cease, and each boy, by extending his arm, and placing his right hand on the shoulder of the next, will find himself in the line, in the place which he ought always to preserve.

#### EXERCISE IV.—*Trotting Pace, in place.*

This is nothing but a successive beating of the feet in cadence. The movements of the legs, which are to be performed as in the preceding exercise, must be twice as quick. The instructor, who ought always to be in front of his scholars, counts, as in the preceding exercise, *one, two*, in making the same movements, *halt!*

#### EXERCISE V.—*Galloping Pace, in place.*

The movements are much more precipitate than in the trot ; it is a continued skipping, which is performed by raising, as it were, both legs at once, and placing them down again very nearly together. When it is the right foot which gives the impulse, the left is raised and set down again the first ; the right falls immediately after. When it is the left foot which gives the impulse, it is then the right which is raised and set down again the first. To have a just idea of the cadence of the movements of the feet in these exercises, we may compare the times of the walking pace to the balance of a large clock ;



those of the trot to the movement of a watch; those of the gallop form two precipitate movements. The instructor ought carefully to watch that his scholars raise and set down the left foot at the same time. The upper part of the body has no particular movement; it is almost always immoveable, notwithstanding the violent movement of the legs. When the boys can make the above indicated exercises with correctness, in place, they may be made to repeat them in advancing and retreating, taking care especially to make them keep the line and together. If this exercise is one of the most fatiguing, it is also that which presents the greatest advantages for suppling and fortifying in a little time the lower extremities, without any instrument, and in a small room.\*

## EXERCISE VI.

### *Simple Jumping, in place, the Feet joined.*

This sort of jumping consists in a sudden impulse executed at the moment when the body is detached from the ground. All the elementary exercises for jumping upwards, are also preparatory for jumping

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\* It is by means of this exercise that I have been able to supple subjects of an advanced age, on whom my other exercises had had but very little influence. This lesson often repeated, by forcing them to bend all the lower articulations, and that with rapidity, makes them gradually become very supple, and enabled me to make them undertake several exercises, in the course of which I obtained satisfactory results.

far, for both depend absolutely on the size of the arc which is described in jumping. For this reason I have particularly endeavoured, by a great number of exercises, to augment the force and suppleness of the lower extremities. Obligated to exercise many boys at a time, I place a great number of them on one line, at one pace distant from each other, the head up, the shoulders well back, the heels joined, the fists shut, and the arms hanging naturally down by the sides. At the word of command, *One*, they bend and sit down, as it were, on their heels, their arms kept close by their thighs. At the word *Two*, they rise again, keeping the arms back and the knees straight, and moving the upper part of the body forwards. These two movements are repeated till they are able to make them with exactness and promptitude, then, at the word *Three*, from the second position, by means of an impulse, they move the arms and the upper part of the body forward, fall on the toes, and wait the command of the instructor to re-commence.

EXERCISE VII.—*The Redoubled Jump with the Feet joined, by two, by four, or by eight.*

The boys are placed in a line at arm's length. At the word of command, *Fix*, all the right arms fall together down by the side.\* The instructor com-

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\* This line ought always to be the prelude to the exercises of the lower extremities.

mands: Count by two, by four, or by eight, according to the strength and the number of the boys; then the four first, at the command *one, two, three*, or, down, up, jump, begin the evolution. *One*, is to re-assemble, *two* to rise, *three* to jump and retake the second position, which is to be kept till the instructor repeats the first commandment. The second detachment, which remained immoveable during the departure of the first, begins now to perform all the times which the first party has made. At the third command the third detachment puts itself in motion, and so on in succession for the whole column, which may be called, in military terms, Breaking the division forward by detachments. Each detachment is one leap before that which follows it. As this exercise is very fatiguing, the instructor will not make them execute above five or six jumps in the beginning. He ought particularly to require that his scholars fall perpendicularly on the points of their feet. As soon as the first detachment is arrived at the end, they file off to the right or to the left, and return to the place whence they started, and the rest follow in the same manner.

### EXERCISE XIII. *Continued Jump, the Feet joined.*

Here the instructor commands only the first jump, which is made one, by one, by two, four, eight, or by the whole column in front. When the boy is once in movement, he should continue jump-

ing, with his feet joined, till he arrives at the end of his course. This exercise being very violent, care should be taken to allow only strong boys to perform it. Jumping backward, with the feet joined, alternately backward and forward, from right to left, and from left to right, also in place, with the feet joined, make a part of this lesson. These exercises are very recommendable, as they put those muscles in action which had been nearly inactive in the preceding exercises; they offer, besides, to the instructor, the valuable means of varying often the elementary lessons.

#### EXERCISE IX. *The Spectre's March.*

This march consists in sliding forwards or backwards, on the points of the feet; by making little jumps, without bending any articulation, and with the arms kept down close by the sides. This exercise serves to give a tone to the muscles and articulations which might have been too much stretched after the preceding exercises. By means of these exercises, the position of the body and the carriage acquire much more ease and steadiness. The members of the body, habituated to bend and act in every direction, take any sort of position without constraint, and he who is master of all his movements, will seldom experience any embarrassment in whatever situation he may be found: it may be added, that if the volume, strength, and suppleness of the members are in-

creased, by means of the exercises that are made, there are none more proper for developing the lower extremities than those we have described in this Chapter. But I pretend to point out only the general exercises ; a judicious instructor will, without doubt, modify them in a thousand circumstances, of which he only is the judge.



## CHAPTER II.

*Exercises of the Superior Extremities.*

PREPARATORY exercises for developing and augmenting the strength of the upper extremities.

## MOVEMENT OF THE ARMS.

EXERCISE I.—*Rising them straight in Front.\**

All the boys being placed in the position and line which I have indicated above, at the command of the instructor—*Forward, one*, they extend their arms in front as high as the pit of the stomach, the fists shut, the nails upwards, and remain there; *two*, the arms fall, without slackness, down by the sides; *one*, they return to the first position. *Forward, two*, they fall again down by the sides, and so on in succession, always counting *one, two, one, two*, in equal time, till the command *Halt*, is given.

EXERCISE II.—*Raising them parallel to the Ears.*

This exercise has four distinct times. *One*, is for raising the arms to the pit of the stomach, as in

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\* In order to execute all these movements with the greatest freedom, the boys may be counted off by fours, and every other four may be made to advance two paces.

the preceding exercise. *Two*, is for raising them parallel to the ears, the fists shut, and the nails in front. *Three*, is for returning to the horizontal position. *Four*, the arms fall again parallel to the body. All these movements ought to be executed with quickness, and in equal time. The upper part of the body has no particular movement, it ought to be kept in perfect equilibrium.

### EXERCISE III.—*The oscillatory, or pendulum Movement.*

This movement is performed by swinging the arms forcibly backwards and forwards in equal time, with the fists shut ;—at first only one arm, then the two alternately, and afterwards both at the same time. When only one arm is in action, the other ought to be turned on the breast, with the fist closed. In this movement the shoulder and the fore-arm, when in action, should be kept rather stiff, in order to prevent the articular ligaments from being too much stretched.

### EXERCISE IV.—*Circular Movement.*

This exercise is performed in three different ways: the first, from behind to before ; the second, the reverse ; and, the third, with the two arms together. In the first case, one of the arms rapidly describes a cone, the base of which is at the extremity of the hand, and the summit at the articu-

lation of the shoulder. It is understood that the same movement is made with the two arms alternately. During this movement, the arm should not be left too much to its own weight, that the top of the *humerus*, which moves in the cavity of the shoulder blade, might receive a moderate and equal friction. To perform this and the following exercises, without constraint, the boys should be placed two paces distant from each other.

EXERCISE V.—*Vertical movement Superior.*

Placed in the position indicated in the preceding exercises, the arms are bent in the direction of the arm-pits, the fists shut, the nails turned inward, the elbows close to the sides, the shoulders square, and the body erect. At the command of the instructor—*One*, one of the arms is quickly raised (passing it close by the temple) in a vertical direction and remains there. The extended arm forms a line parallel with the head, the shoulder nearly touches the ear, and the nails are turned towards the figure. At the command—*Two*, the arm, by a retrograde action, takes its first position, and this movement is repeated till the command *Halt*, is given. As soon as this action can be executed with exactness and celerity, sometimes with the right arm, sometimes with the left, we may habituate ourselves to do the same thing with both arms alternately, counting, in equal times, with more or less precipitation, *right, left; right, left; or one, two, &c.*

Afterwards, observing always the same equality in the measure of the time, the two arms will be spontaneously raised at once, having regard to the rules above described.

#### EXERCISE VI.—*Vertical movement Inferior.*

Here the position of the body is the same as in the preceding exercise. At the word of command, *Raise*, the arms are placed parallel to the ears, as has been indicated above; except, however, that here the nails ought to be turned forward. The first time is executed by passing the fist quickly by the side of the cheek, along the ribs, and throwing it with force towards the ground in the direction of the knee, taking care especially to keep the elbow up till the fist has passed the height of the stomach. This exercise, as well as the others, is commenced by habituating the arms separately to the actions, after which it is performed by the two arms alternately without interruption, and then with both at once.

#### EXERCISE VII.—*Developing Before, striking Behind.*

The principal end of this exercise being to develop the breast and bring it forward, by acting forcibly on the muscles of this part, the instructor must carefully observe, that the execution of the

movements be made with accuracy. This exercise has four distinct times. *One*, is to raise the hands along the sides, the points of the fingers inclined towards the ground, to join them over the head, the backs of the fingers united from the second joint, and the nails in front. *Two*, from this position, by developing the arms gracefully to the right and to the left, they are extended horizontally, the palm of the hand upward. *Three*, by lowering the arms gently the hands are turned ; when they are at the height of the hips, they are struck together behind. *Four*, the hands are placed down by the sides. Thus : *one*, is to raise the hands and join them over the head ; *two*, is to extend them horizontally on each side of the body ; *three*, is to lower the hands, by turning them to join them, and clap them together on the back ; and, *four*, is to replace them down by the sides, To perform this exercise well, the arms must be gracefully developed, and all the times well expressed.

#### EXERCISE VIII.—*Detaching Sideways.*

This exercise has three distinct movements : the first from the right or the left, the second alternate, and the third spontaneous. At the command—*One*, all the boys raise their elbows, nearly level with their ears, and bend them in the direction of their arm-pits, the fists shut, the nails towards the body. At the command—*Two*, each detaches (suppose to



the right) a dry blow, without, however, stretching his arm, and returns to the first position ; then the two hands act alternately, which must be well distinguished from the two hands put in action spontaneously. In the first case, there is always one that detaches while the other returns to the body ; instead of which, with the two hands at a time, there is but one single blow, the hands detach and bend at the same time.

EXERCISE IX.—*Detaching Before, or Movement of Repulsion.*

This has also three distinct movements : the first forward ; the second, alternate ; the third, spontaneous. It is performed in the following manner : The boy, standing firm on the lower extremities, keeps his elbows close to his body, bends his arms to the height of his breast, his fists shut, and his nails turned towards his shoulders. At the word of command, *one*, he detaches a dry blow straight before him, without, however, stretching the arm entirely, and continues the same movement with greater force and quickness ; first with one arm, then with both alternately, and, afterwards, with both at once.

EXERCISE X.—*Describing a Circle.*

This action, which may be regarded as one of the most violent movements of the upper extremities, is, without doubt, one of the most efficacious

means of fortifying the station, whilst the upper part of the body performs, in different ways, the most rapid movements, which would not fail to draw the body out of its erect position, if the suppleness of the hips did not maintain it continually in equilibrium. This exercise, which is first made in place, and afterwards in advancing or retreating, may be performed from right to left, or from left to right. When it is made, in place, sometimes the right leg, and sometimes the left leg, may be placed forward. To act from right to left, the right foot must be placed one pace backward: In this position, it is the right side which supports, whilst the arms act. In the attitude which this figure represents, the arms are thrown with great force from right to left, by contracting all the articulations, and keeping the fists as firmly closed as possible, and they are then placed in the way opposite to which they were before they were moved; that is, the right arm is bent on the breast, the elbow in the direction of the pit of the stomach, the fists (the nails inward) on the insertion of the collar bone, with the shoulder-blade, the left arm behind, the joint of the elbow a little bent, the wrist hollow, the shoulder kept back; then return to the first position, and so on successively. This movement must be made in place, till it can be made very fast, and a great number of times following, without shaking or moving the sole of the foot. Afterwards, it may be made in advancing or retreating.

EXERCISE XI.—*Hovering.*

This exercise is a sort of movement, "*en fronde*," very much circumscribed. It is performed with the arms extended horizontally on both sides of the body, the fists shut, and at the height of the shoulders. The fists may be moved indifferently, by making them turn, in appearance, with great quickness, either from behind to before, or in the contrary direction. During this action the articulations of the arms and shoulders are stretched, and the other parts of the body ought to be immoveable. This exercise operates on the superior extremities, the same action as the plank in the lower extremities; it serves, also, to give a tone to the muscles and articulations, which are stretched in consequence of the preceding exercises. It tends to replace these parts in their natural state, by the contraction to which they are subjected.

## CHAPTER III.

## COMPLICATED EXERCISES.

*Wrestling.*

But we who are made to be vigorous, do we believe it possible to become so without trouble ?      ROUSSEAU EMILE.

THE salutary effects which result from the different manners of wrestling extend themselves over the whole body. The members are developed, the muscles are fortified, the vital spirits are circulated more freely, and increased in a very visible manner. This exercise presents also the advantage of arming young persons with patience, courage, and constancy. A long experience, supported by daily practice, has clearly proved to us, that, of all the exercises of the body, wrestling, well directed, is that which increases courage the most, inures to pain, and accustoms young persons to perseverance. This only gives them that moral force which is commonly called resistance.\*

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\* No other exercises are here meant than those which my scholars perform in my presence, in order to increase, in amusing themselves, all their faculties ; and an intelligent man will easily perceive, that all those exercises are, in fact, the natural plays of childhood, which only require to be directed by a man capable of appreciating the dispositions of each individual.

If we consider wrestling with regard to its general utility, we shall see that there is no other exercise which presents, more than this does, the certain and not expensive means of rendering the body supple and vigorous, of preserving the health, and increasing its means of defence.

It is possible that some men, under the influence of prejudice, or the pretended brave, will pretend, that wrestling is useless, since fighting with the fists is no longer practised; but let us suppose, for a moment, that one of these gentlemen unintentionally insults, or rather finds himself insulted, by one of those vigorous companions, who, to decide their quarrels, employ only the arms which nature has given them; in a similar case, what will the man do, who has hardly strength enough to handle the sword which he carries?\*

### *General Remarks on Wrestling.*

Both with regard to security and agreeableness, a close soil, covered with a good green turf, is, without contradiction, the most proper ground for wrestling on, when care has been taken to remove all the hard bodies which might injure the wrestlers

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\* On a similar occasion, Marshal SAXE seized the aggressor by the collar, and with a vigorous arm threw him into a scavenger's cart full of mud. Instead of insulting the Marshal, the people of London enthusiastically applauded this proof of his vigour.



in case of falls, or during the struggles which take place on the ground. Too hard a soil presents but little resistance to the feet, and it weakens the confidence of the wrestlers, because they are afraid of slipping and of hurting themselves in falling. Ground covered with a deep sand is very disagreeable, because in wrestling upon it the body is almost always covered with, and the eyes full of sand. Neither boots with high heels, nor shoes with iron about them, should ever be worn whilst wrestling. The pockets should always be emptied of all things that might be injurious to the movements, or that might do harm at the time of falling. The sleeves of the shirt ought to be turned up above the elbows, the waistband of the trowsers should not be very tight, and the shirt-collar should be open. It is expressly forbidden in wrestling for one to take his antagonist by the throat, or by any other improper part, to employ either the nails or the teeth, or to strike him under the chin to make the water come in his mouth.\*

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\* To give the blow of the chin, is to take one's antagonist round the waist, and to press his chin strongly on the breast, by drawing his loins towards oneself. He who gives the blow on the chin cannot be made to let go his hold, nor can his adversary avoid the fall, but by pressing his two fore-fingers forcibly behind the ears, under the joints of the jaws, which is commonly called, making the water come in his mouth.

In wrestling upright the great advantage consists partly in following attentively all the movements of the feet of our adversary, in order to profit by the moment when he makes a false equilibrium ; or, when all his forces are not acting in the same way, he fails in his attempt or attack, and gives us himself a real advantage. We see by this how useful it is, in order to wrestle with advantage, to study the equilibrium during the active station, then to know how to employ with advantage the action of the lever, to conquer or to oppose any obstinate resistance when our adversary is stronger than we.

The position which sometimes appears hopeless, is often that which procures the victory. The reason of it is simple: he who has apparently the advantage, almost always abates his vigour, instead of which, he who is ready to yield, assembles all his powers, makes a last effort, and takes advantages of his adversary, who believed himself already conqueror. The latter is so much the more disconcerted because he did not expect this vigorous resistance: for this reason, he who has the advantage ought never to give himself up to too much security ; nor ought he who finds himself in a critical position to despair of success ; but, on the contrary, he ought to oppose an obstinate resistance to the last extremity. It sometimes happens in wrestling, that he who meets with a vigorous opposition, which he did not expect, soon

loses his courage : the violence of his first shock is often followed by a dejection, which he is not able to overcome ; and the obstinate resistance which he experiences having soon exhausted his strength, he gives up his hopes, sometimes at the very moment when his adversary is on the point of yielding him the victory. As it is seldom that all the qualities of a good wrestler are found united in the same person, the great advantage at the time of the encounter, is to discover immediately the weak part of one's adversary : has he the advantage over us with regard to weight ; address, prudence, and quickness, will powerfully serve to fatigue him.\* We must carefully avoid being held tight in the arms of a man who is stronger than ourselves, and being carried away by him, or we must render his so doing useless and fatiguing, by interlacing ourselves in his legs, and by fixing ourselves round his neck, which we hold with force. The wrestler will at length be persuaded that the strength of a man is of little consequence, when he who possesses it is deficient in those qualities which are acquired by experience and judgment.

In order to prepare our scholars for one of the most complicated exercises, both with respect to the diversity of its movements, and the different

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\* Address doubles the faculties of the body. Prudence and quickness often supply the place of strength, when we know how to employ them with advantage.

situations in which wrestlers are often placed, we arrive at wrestling, properly called, by a course of preparatory exercises, which serves as an introduction.

EXERCISE I.—*Kissing the Ground in Equilibrium on the Arms and the points of the Feet.*

All our scholars are placed on the same line. At the word of command—*To the ground, forward*, each one, extending his arm straight forward, falls on his hands, by bending the inferior articulations a little, and extends himself at length, as represented in *Plate 2, Fig. 1*. At the command—*One*, he lowers himself, as it were, to the ground, by pushing his body forward, without bending his back or his knees, and remains there an instant. At the word, *Two*, he re-takes his first position, and so on successively till the command, *Up*. Many of my scholars make this exercise forty times following, on the arms and the points of the feet, without falling; that is, they lower and raise the body by the help of the arms and the feet, the number of times indicated, without resting, or bending the back or the knees. To vary this exercise, one may, in this position, describe a circle with the feet, the hands are in the centre, and serve as a pivot. It may also be done by walking on the hands, and then the feet are in the centre. In both cases a periphery is described.

## EXERCISE II.—*To the Ground Backwards.*

Here the body is supported on the hands and the heels, the other parts of the body as far from the ground as possible. (*See Plate 2, Fig. 2.*) At the word of command, *One*, all our scholars, supporting themselves strongly on the hands and the heels, move the knees forward, which should be well kept together, and remain in this position till the word, *Two*, be given, when they return to the first position, and so on successively till they hear the command, *Up*. The object of these exercises is to strengthen several muscles on which our preceding exercises have had but very little influence. The instructor should carefully observe that his scholars bear equally on the two arms and the feet.

## EXERCISE III.—*To make the Seven, or Square.*

Seated on the ground, the hands are placed down quite close to the body, the palms of the hands in the direction of the hips, the fingers outward and joined together. In this position the body is raised from the ground, by pressing strongly with the hands, and kept in equilibrium with the legs extended; and without touching the ground, except with the hands, the legs are moved sometimes to the right and sometimes to the left.

## EXERCISE IV.—*The Goat's Jump.*

Placed on the hands and feet, as in the first Exercise, the boys must endeavour to advance by



jumping, without bending any articulation. The loins and the arms give the impulse, and the feet ought to follow without dragging on the ground. This exercise is also made backward.

EXERCISE V.—*Squaring with the Hands, or Wrestling with the Fists.*—Plate 2, Fig. 3.

In this position, he who proposes to drag away the other, ought to assemble all his forces, feel his equilibrium on the leg which is behind, bend himself gently, place his feet sideways (or pinch with the sole), and pull strongly that way which he wishes to bring his competitor. He who resists employs the same means till he loses his footing. If the greater force with which he is drawn away hinders him from stopping himself in a direct line, he makes a pace sideways, from the right to the left, for example (when the right leg is forward), draws, by this change of direction, his partner out of equilibrium, and endeavours to drag him away in his turn, or re-gain his footing.

EXERCISE VI.—*Head to Head.*

This manner of wrestling is represented in Plate 2, Fig. 4, where the position of wrestlers is shown. The one endeavours to make the other give way, by pushing him strongly with his head and his arms, one above and the other below. If the ground is firm the young champions have an

equal advantage, which they will not always preserve; for one will be able, either by strength or address, to make his adversary recede; and, after he has once been able to put him in motion, he will never give him time to re-gain his footing.

EXERCISE VII.—*The Binding*.—Plate 2, Fig. 5.

In this action, where perseverance may often procure the victory, it is forbidden to touch the champion with the hands, or to endeavour to make him let go by throwing him down, or by wringing his fingers. The binding ought to be strong enough to hinder the prisoner from escaping, without, however, injuring him or making him fall down. The great advantage is to manage our strength, and to follow, with the greatest suppleness, all the movements of him whom we hold. When the prisoner is taller than the champion, the latter ought to raise himself, as much as possible, on his toes, to keep up his shoulders, and to force away the hand, which the other tries to introduce by his fore-arm. If, after having made several attempts, the prisoner is not able to disengage himself, by introducing one or both his arms between his own body and that of the champion, he ought to take advantage of the moment when the other forces away the arm which he tries to introduce, and endeavour to turn himself in the following manner: By leaning himself to the right, in order to introduce his left arm as soon as he feels that the other

raises his shoulder, he makes a movement backward with his head, raises his arms parallel to his ears, and throws them forcibly, from right to left, over the head of his champion. If he does not entirely succeed in turning himself by this movement, he leans his right fore-arm strongly against the nape of the neck of him who holds him, and remains in this position till he is able to turn and then disengage himself. He may also disengage himself without the assistance of his arms; but for that he must be very strong, and able often to repeat that blow he makes with his loins, to turn himself as above indicated, or to fatigue the champion in some manner or other.

#### EXERCISE VIII.—*Bending Upwards.*

As soon as the engagement begins, he who makes the attack lowers gently the right hand of his champion, drawing it towards himself, and seizing the moment when the elbow of the arm, which he lowers, is close to the hip, he vigorously moves it off with the right, lowers the left hand of his champion, making it pass before the body, and bends his left arm on the right, by acting strongly with the shoulder. The two arms are then joined together. During these different actions, the knee, which is before, ought to act in concert with the hands, in order that he who is pulling the other towards himself, may make him lose his equilibrium.

Here, the left knee being forward, it is the right arm which lowers, and the left which moves off and bends. To execute this exercise with advantage, requires more suppleness than strength. It contributes powerfully to the development of the breast and shoulders, it fixes the upper part of the body on the hips, and prepares the members for all the fine movements of wrestling.

#### EXERCISE IX.—*Wrestling with Sticks.*

Here the wrestlers ought to act without precipitation. They collect all their strength in giving notice by the words—*Draw, Just!* *Draw*, is the word of warning, and *just*, that of execution. At the moment of the greatest action, the upper part of the body bends upon the hips, the breast seems to go out from the arms, which are immoveable, the legs, which till then were bent, are extended and stiffened with great force, and act in concert with all the other parts of the body. In this exercise it is less the strength than the resistance which procures the advantage. Therefore, it is essential that the instructor knows well how to distinguish between strength and resistance. We have often had occasion to remark, that a subject of moderate strength prevailed, by resistance, over a very strong man; therefore it appears to me, that, without any abuse of language, strength, in general, may be called physical strength, and that which we call resistance, moral strength, or strength of courage.

EXERCISE X.—*Forming the Lever.*

Here strength and tallness give one man great advantage over another, who is shorter and weaker. However, the victory is not always on the side of the strongest. Here it is the left that bears away, the right and the head press down on the same side; that is, the left arm of the strongest moves away the right of the weakest, at the same time he leans his head strongly against that of his champion, and tries to overthrow him, by holding him always in the same position. This action, making him who is the least and the weakest bend the upper part of his body upon the hips, makes him yield in spite of himself. This movement is composed of four different actions: 1st, that of the left arm, which removes the right; 2nd, that of the head, which leans with force in the same direction; 3rd, that of the right arm, which pushes down the left shoulder; 4th, the general action of the upper part of the body, which acts to the right, and causes a gentle, but almost inevitable, fall.

He who proposes to resist this attack lowers himself gently, till he is able to seize, with his lower hand, the leg of his champion, pull it up with force, put immediately one of his legs behind that on which his champion stands, and lean the upper part of his body forward. However little address one may have, with great quickness he will always



overthrow his adversary. Or, as soon as the weakest perceives that the other wishes to press him down, he moves his head back quickly, interlaces at the same instant his right leg with the left of his champion by placing it inside, lifts up forcibly the leg which he holds, and pushes vigorously to the right, with his right arm, which he places across the chin of his champion; if he does not succeed to overthrow him, he ought at least to take advantage of this action to supplant him whom he holds round the body, by raising him from the ground to overthrow him to the right or to the left, without forgetting, especially, the action of the legs.

*The Snares, or the Trip.*

Among the great number of attacks used in Greek wrestling, we will point out the seven principal trips, or snares. It is extremely advantageous to understand them well, in order to employ them in case of necessity, or to know how to avoid them. 1st. The first, which is called exterior, is made from right to right, outwards, the knees and the hips kept well together; that is, the leg is placed outwards behind the right of the champion.—2nd. From left to left. The left leg outwards, behind the left of the champion. In the first case, the left hand of him who attacks draws back the upper part of the body, whilst the right shoulder presses forcibly on the breast of him who is to be overthrown. In the second case it is

the right hand which draws, and the left shoulder which presses vigorously. In the warmest moment of the action, he who attacks ought to stiffen as much as possible the knee which makes the lever. In either case, he who attacks ought to make all these partial movements as one single action, executed with the quickness of lightning. He who resists has the same chance as he who attacks, when he has foreseen the blow soon enough to ward it off. If, on the contrary, he has been surprised, or has no confidence in his strength, he ought immediately to disengage his leg, and place it behind.

3. One may also interlace the right with the left, placing it inside, then the under part of the knees are joined, and he who attacks makes the hook on the fore-part of his champion's leg, with the point of his foot.—4th. With the right against the left, in the inside, as above said.—5th. By letting himself fall to the left, to raise quickly from the right, with the top of his foot, the left leg of his champion, tacking it under the calf, and to make him fall on his back, pulling him with the left hand, at the same time pushing vigorously with the right. In both cases, he who is overthrown is made to describe a sort of half turn on the heel of the foot which rests on the ground.—6th. To fall to the right by lifting up from the left, as above indicated.—7th. By giving a violent push from left to right ; to take advantage of the moment when the opponent staggers, to place the end of the right foot quickly

on the exterior part of the foot of the champion, and to push vigorously from right to left, without moving the foot which holds. The exterior snare of the left against the right, and of the right against the left, is given when the adversary presents to us one of his legs, sometimes to make a trap, the right for example. If we see that he intends the exterior snare, from the right against the right, we move the left leg quickly, outwardly, behind that which he presents, by engaging him under the knee, we raise it up, drawing towards us with great force and rapidity ; we pull at the same time towards us with the left hand, whilst we push forcibly with the right. When this action is well executed, we seldom fail to overthrow our adversary. The blow of the knee is given at the moment when the adversary, bending backwards, moves one of his legs forwards to overturn you, you seize the instant when one of your knees is behind his, to give him with the knee a strong push in that part, and with your hands you draw or push his body in a contrary way. Care must be taken not to give the blow of the knee, except the knee which presents itself is a little stretched.

#### EXERCISE XI.—*Taking the Advantage.*

In this exercise it is not yet permitted to throw each other on the ground ; it is only allowed to seize the adversary round the loins, and to squeeze him in such a manner that he cannot introduce his

arm between his own body and your's. To this end, as soon as you have seized him, you must press your head flat against his breast, and raise up your shoulders as much as possible, in order to prevent all his movements. This action takes place standing. The wrestlers place themselves one pace distant from each other, the arms bent, the elbows close to the sides, the fists shut, and crossed one upon the other, as high as the stomach. At a signal agreed on, they approach, seize, escape, and let go each other, often several times, with great quickness, and endeavour, by means of all sorts of deceptions, to seize a favourable moment for taking the advantage, each one trying to introduce his arms between the arms and body of his opponent, and to embrace him with sufficient force to preserve the advantage. It is not sufficient only to have seized the adversary, as above indicated, but he must be held in this position till he acknowledges his defeat. Whoever has twice had the advantage with the same champion, ought to be acknowledged conqueror, and has the right to begin again with another wrestler.

#### EXERCISE XII.—*Of the First Fall.*

Sufficiently prepared by all the elements of wrestling, we may now, without fearing any accident, familiarise ourselves with one of the most complicated exercises, both by the variety of the movement, and the different situations in which we are placed during the action, which is about to be



described. Placed opposite to each other, as has been indicated in the preceding exercise, the wrestlers endeavour, by all sorts of movements, to take the advantage; but as here the principal object is for one to throw down the other, it is permitted in the attack, in endeavouring to take him round the body, to throw him in any manner whatever, and when one of the wrestlers is much quicker and more dexterous than the other, it might happen that the victory may be decided before either has taken this hold of the other, for he who has twice thrown his adversary on his back ought to be acknowledged conqueror. As soon as one has taken the other round the body, he who has obtained the advantage ought to keep his head as close as possible on the highest of his shoulders, in order to hinder his champion from taking it under his arm; then, in raising him from the ground, to push him from one side, and throw him from the other; or to take advantage of the moment when he advances one of his feet, and to throw him down artfully, by giving him a trip up. He who loses the advantage ought quickly to move his feet backwards,—to lean the upper part of his body forwards,—to seize, if possible, the head of his champion under one of his arms,—to fix his other hand on the hip, or on the loins, and to make his adversary bear all the weight of his body.



EXERCISE XIII.—*Wrestling on the Ground.*

In this Exercise the two Wrestlers are lying on the ground, one on his right side, and the other on his left, two feet apart and opposite to each other. Their arms are lying on their breasts, or extended down by their sides. The action begins at a signal agreed on, and he who is first able to suspend all the movements of his adversary, by holding him confined under him, upon his back, is conqueror. Here cunning, suppleness, agility, strength, and, especially, resistance, are indispensable. When the wrestlers are of nearly equal strength, the victory remains some time undecided; each takes his turn to be on the top, and it sometimes happens that he who loses the first part gains the other two; or, by making an equal part, renders the victory undecided. In this manner of wrestling, as well as in the others, they very often engage three times, for it often happens that he who has had the advantage in the first action, loses it in the second, and is consequently obliged to begin again, in order to decide the victory.

## JUMPING, RUNNING, AND SKIPPING IN A HOOP.

THIS is one of the most simple and amusing exercises for boys. Children of from seven to eight years, with the assistance of a hoop, are able to perform a great number of movements, which cannot but be very advantageous for developing their strength and address. The hoop which they use should be small enough to pass easily between their legs: the two ends which cross each other ought to be very thin, and firmly fixed with a wire or a piece of strong twine; the projecting edges should be rounded as much as possible, in order that the children may not hurt themselves when they strike them against their legs, which often happens when they begin this exercise.

### EXERCISE I.—*Passing the Hoop forward, in Place.*

To perform this movement the hoop is held at the joint, the two hands about four inches apart, the body kept in a perpendicular position, the head up, and the heels on the same line; the hands are then raised to the height of the chin, and their backs turned towards the face. Placed in this manner, we look through the hoop, the part which is to pass under the feet being now over the head. Things being disposed in this manner, the hoop is thrown under the feet, and we make a little jump with both feet at once to let it pass; we then bring

it from behind to before, and continue jumping, taking care especially to raise the feet well up, and not to let go the hoop, to which we communicate a rotatory movement: the hands only should be employed to put the hoop in motion, and they should be kept as close to the body as possible. In this, as in all the exercises of the lower extremities, we should rise and fall on the toes.

EXERCISE II.—*Passing the Hoop behind.*

Here the hoop passes over the head, descends behind the back, passes under the feet, and rises again before. In this action the movement of the hands takes place in a direction contrary to that of the preceding exercise: placed opposite the middle of the stomach, they hold the hoop turned towards the ground: in this position the hands are raised as high as the eyes, the arms are bent back, and the hands descend, passing close by the face and the breast. In consequence of the impulse it received in passing over the head, the hoop passes under the feet at the moment when the hands become just above the hips. It is indispensably necessary to perform these two exercises well before proceeding to others.

EXERCISE III.—*Running through the Hoop.*

As soon as we begin to put ourselves in motion, one foot is put through the hoop and placed on the ground, the other is then raised behind to let the

hoop pass, and the hoop is brought again before the feet by making it pass up behind the back and over the head. The passage of the hoop under the feet is made at the moment when one of the feet is raised, whilst the other is moved forward.

EXERCISE IV.—*Half-Passage.—Sideways.—In Place.*

The pupil holding the hoop in his right hand, and extending his arm, makes a little jump, passes the hoop under his feet, and rises into a horizontal position, standing himself in the middle of it; he then jumps again, passes the hoop back under his feet, and resumes his first position. This exercise should be made with the right hand, till it can be done with ease and facility, and then the same thing may be done with the left hand.

EXERCISE V.—*Entire Passage.*

If this exercise presents greater difficulties than the preceding, it offers also the surest means for developing the address, by habituating the body to move itself with ease and celerity, whilst the arms are executing partial movements. In order to make the hoop perform an entire round, by throwing it under the feet, either from the right side or the left, the arm which acts should be raised and extended parallel to the ear; then the instrument should be passed under the feet, which ought to be raised high enough not to interrupt it, when it comes again

in the first position. The hand not in action should be placed on the breast, and the elbow kept close to the body. It is especially necessary to perform well the passage of the hoop under the feet. If it has not sufficient impulse, it will take an oblique direction, and touch the body. What has been made with the right hand may be repeated with the left.

#### EXERCISE VI.—*The Return, or Passing above.*

As soon as the preceding exercise has been made with facility, we may try to pass above, that is, to make an entire turn, by making the hoop pass over the head on the side opposite the hand which directs it. If the right arm acts, the arm held parallel to the ear, the hoop is thrown to the left; then, by making it pass over the head, down the side, and under the feet, it is brought again to its first position. To pass from the left to the right, the contrary movement is made with the left hand.

### JUMPING, RUNNING, AND SKIPPING WITH A CORD.

The exercise of the hoop and the cord are in every respect commendable. By putting the body in action in every possible manner, they increase its strength and address, and render the members astonishingly supple. Besides, their great simplicity presents the advantage of being able to perform them every where without danger. Chil-



dren of seven or eight years may try the most simple, without running any risk of injuring themselves. Afterwards they will learn, of their own accord, to perform the most difficult. Although very simple in itself, this exercise is capable of a great many variations. It ought to obtain an advantage over many others, because the movements which it occasions develope the body in the most varied and extensive manner. The exercises in question, as well as all the other elementary exercises, present the advantage of being executed, at the command of the instructor, by a great number of scholars at a time. Each of my pupils having his cord and hoop, I often exercise sixty of them on the same line. In order that they may be able to act, without interrupting each other in this exercise, after having counted them by fours, every other four is made to advance or retreat a few paces. In following here the gradation of the different classes, the spectator sees in the same lesson the most simple exercises, and those which are the most complicated. The cord used for this exercise should be very supple, and long enough, when held in both hands, to extend from the sole of the foot to the hips. This exercise consists in making the cord, one end of which is held in each hand, pass over the head and under the feet. A gradual impulse is given to the cord, and the pliant body follows the movement in cadence. The cord passes under the feet, lightly grazing the ground,

and then over the head of the skipper, and envelops him in a semi-oval, which afterwards, by the rapidity of the movement, appears to be entire. To admit the cord to pass under the feet, both the legs are to be bent at once, and the heels are to be raised to a convenient height behind.—*See Plate 6, Fig. 28.*

**EXERCISE I.**—*Passing before.—In Place.*

Here the position is the same as in the first exercise with the hoop. To begin, the cord is thrown behind, and then, by giving it an impulse, it is brought forward, passes under the feet, rises again behind, comes forward, passes under the feet, and so on successively. As in the exercise with the hoop, the cord must perform a movement of rotation, except that it does not turn between the fingers. During this action the arms are a little bent, and have but very little movement; the principal action is in the wrists.

**EXERCISE II.**—*Passing behind.—In Place.*

Here the movement is made in a contrary way to that of the preceding exercise. The cord placed before is made to pass over the head, behind the back, under the feet, &c.

**EXERCISE III.**—*Passing before.—In Running.*

This does not differ from the preceding, except that it is made in advancing or retreating. As soon as these three exercises are made with preci-

sion, we may try the touch behind, the touch before, and the galloping step; and then we may pass on to the following: though they present greater difficulties, they may be easily executed by those who have well learnt the preceding.

#### EXERCISE IV.—*Skipping in Place.*

In this exercise the position and the movements of the feet depend entirely on the will and address of him who is performing it. The action of the feet may be infinitely varied, whilst the cord turns sometimes from behind to before, and sometimes from before to behind. Often whilst the right leg is extended forward, the left, by being raised behind, touches the upper part of the thigh. The left advances in its turn, and the right touches. We might also try the balance, sometimes on one, and sometimes on the other leg. Young persons who have already learnt to dance, might make all sorts of figures whilst the cord moves without interruption.

#### EXERCISE V.—*Simple Passing and Crossing.—In Place.*

The first passage is made as in the preceding exercises; in the second, the arms are crossed in the following manner:—In the moment when the cord falls before, the hands cross in the direction and about the height of the hips, the right hand passes to the left, and the left to the right. The

direct passage and the cross may be made alternately. When this exercise is made with facility, we may try to make it behind.

EXERCISE VI.—*Three alternate Jumps,—simple, double, and crossing.*

This exercise is one of the most agreeable to the eyes of spectators; it is also very easy for those who have made the preceding. Here the essential part is, to know how to communicate a sufficient impulse to the cord, to make it pass twice under the feet during one jump. This is what is called doubling. When we are able to double several times without difficulty, we try to pass alternately without stopping, twice simple, once double, and once crossing. The same exercises may be made behind, in place; then skipping, in place; and then by running forward or backward. Here it is only the double behind which is a little difficult; the others are executed without much trouble, by a little application.

EXERCISE VII.—*Doubling Right and Crossed.*

This exercise begins to present some difficulty. In it the arms and hands ought to move with great rapidity. Whilst the cord passes twice under the feet, the hands are moved according to a determined change. In the first passage, they act simply, each one on its own side; in the second, they cross, making the cord perform a turn under the feet.

EXERCISE VIII.—*Doubling the Cross.*

This is one of the most difficult exercises. However, with a little application, it might be conquered in a few days. The principal thing is, to cross the hands with rapidity, as soon as the cord has received a movement sufficiently rapid to make it pass twice following under the feet, during one jump.

These are the most remarkable exercises of the cord and the hoop. It would be impossible for me to describe all those which my pupils make. Our elementary exercises of the inferior extremities furnish them with the means of varying them infinitely.

## LOWER EXTREMITIES.

*Skating.*

This exercise, carried to a certain degree of perfection, surpasses all those of which we have hitherto spoken, as well with respect to the beauty of the movements, as to the infinite variety and rapidity of graceful attitudes, which the skilful skater knows how to assume and change instantaneously, without appearing to take the smallest trouble. Sometimes, his movement resembles that of a bird hovering about the same place; sometimes, with his body easily balanced, he waves from side to side, like the bark driven by the wind, then, instantly uniting all his powers, the active skater



dexterously and courageously darts forward with astonishing rapidity, and the velocity of his course equals the rapid flight of a bird which appears to cleave the air. Sometimes, appearing to yield himself to a simple movement of impulse, he slides upon this compact surface without the spectator being able to perceive the smallest muscular action, and passes as a flying shadow before the surrounding objects. This magical action, which seems (so to speak) to set us free from the laws of gravitation, possesses, indeed, something of enchantment; and, without doubt, it was the delightful pleasure which this recreation affords, that suggested to the immortal Klopstock the idea of celebrating, in his songs, the delights which the people of the north find during the winter, on the smooth and solid ice of their numerous canals and lakes.\*

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\* During the winter, Holland presents a spectacle which may be enjoyed at a small expense. When the canals and lakes are frozen, they travel on the ice with skates. In all the provinces, but especially in Friesland, this art is carried to so great a degree of perfection as to become the wonder of all foreigners; and it is surprising to see with what agility and boldness they will pass over three or four leagues in one hour of time. All the country-women know how to skate. Sometimes thirty persons may be seen together, that is, fifteen young men with their mistresses, who, all holding each other by the hand, appear, as they move along, like a vessel driven before the wind. Others are seated on a sledge fixed on two bars of wood, faced with iron, and pushed on by one of the skaters. There are, also, boats ten or fifteen feet long,

A transparent atmosphere, the penetrating cold which fortifies the body, and accelerates the circulation of the nourishing juices, the vigorous action of the muscles in a great variety of determinate movements, as well as the real pleasure experienced during this exercise, must have a great influence on the body and mind of the individual who indulges himself in these amusements.

FRANK, knowing no other exercise more advantageous for developing and strengthening the human body, often expressed a desire to see this amusement introduced, wherever the localities would permit it.\* In the Low Countries, adds the same author, the fair sex believe themselves possessed of vigour enough to brave with hardy step the rigorous cold, whilst our delicate females keep close to the fire side, and hardly venture to take a short walk on foot, even in fine weather.

placed on large skates, and fitted up with masts and sails. The celerity with which these boats are driven forward, exceeds imagination; and, it may be said, they equal the rapid flight of a bird. They go a league in less than a quarter of an hour, and, sometimes, even a quarter of a league in two minutes.

Nautical exercises are also well known in Holland. In many places situated on the borders, or near to a lake or river, they amuse themselves, at least once a year, by contesting the honour of being the most skilful conductor of a sailing vessel.—*Coup d'œil sur la Hollande.*

January 1821, a Lincolnshire Man, for a wager of 100 guineas, skated one mile two seconds within three minutes!

\* Police médicale, &c.

The celebrated Campe is also of the same opinion with the author I have just cited. "I know no corporal exercise," says he, "more useful and more agreeable to youth. Every child of eight or ten years may easily learn it; it is only necessary to give him an opportunity." It is generally thought that this exercise is dangerous, because we are thereby exposed to falls; this remark is very just, but every sort of danger disappears, if we consider, that beginners, being able to give themselves only a moderate impulse, are not liable to severe falls, and that it is only by degrees that they are able to perform difficult exercises; and when they have attained a certain degree of perfection, falls are extremely rare, and hardly ever dangerous. In regarding it more closely, we shall soon be convinced, that this exercise presents much less danger than many others which we practise every day without evincing the smallest uneasiness. For example: by riding in a carriage or on horseback we are much more exposed, and for this reason, that it is always much better to depend upon our own personal address than to abandon ourselves to the caprice of an unruly horse, or to the mercy of an ignorant, and sometimes drunken, coachman. If we are but ever so little acquainted with many of our exercises, we shall be convinced that we might also learn to fall without injuring ourselves in the least, and as, in the course of life, this accident is inevitable, it is very advantageous for every one to

know how to prevent the bad consequences which commonly follow an unexpected fall. As for the misfortunes which arise when the ice breaks, they are not the consequences of the exercise itself; they can only be attributed to a general want of care, or the incautiousness of many parents.

The exercise in question is learned with great facility, if we begin young and have the advantage of being instructed by a good skater. The principal thing is to take care that the skates are well made, and to fix them on in the most commodious manner. This exercise is so easy that it is scarcely necessary to prescribe any rule to young persons when they have good examples before their eyes. It suffices, by way of precaution, to make them observe, that when they go alone they must lean the upper part of the body forward till they have acquired the equilibrium. In order to obviate as much as possible the difficulties presented in learning this part of gymnastics, we will proceed by degrees in the description of this exercise, and, taking the learner at the elementary part, we will follow him step by step, till he has attained that degree of perfection which will enable him to surmount all the difficulties that can possibly occur. This section divides itself into three distinct parts. The first treats of skates in general, and the manner of fixing them on; the second, of the elementary exercises; and the third, of the various sorts of exercises.



*I. Description of Skates, and the manner of putting them on.*

When we buy skates, we should choose them with the wood not longer than the sole of the shoe. When the wood of the skate projects beyond the sole of the shoe, either before or behind, it retards the progress, by rendering the movement less secure, and may occasion falls. The bottoms should be of good steel, well tempered, and very hard; those which are too thin and weak break easily, and cut too deep a track in the ice, therefore we should always prefer those which are nearly a quarter of an inch thick to those which are narrower. The greater part of skates which are used in the north are grooved, and have two edges. This form may be useful, because it hinders the foot from slipping when it gives the impulse. However, those who are accustomed to skates whose irons have a plain face, will go with as much security, and even faster than those which have others. It is essential that the iron be of the same height from the beak to the heel. The common height is about three quarters of an inch. Those which are lower are good for nothing, for as soon as the body inclines a little on one side, the skate being no longer in a perpendicular direction, the wood may easily touch the ice, and occasion a slip. We must especially take care that the iron be well secured in the wood, for the most important thing in this



exercise is to have the skates properly fixed. In those which are commonly employed there are three points in the hinder part, which fasten themselves into the heel of the shoe as soon as the straps are tied and we begin to stand upon them.

## II. *Elementary Exercises.*

The greatest difficulty being to balance well on bases so narrow as those of skates, it will be very advantageous to teach young persons to walk with them in a room before going on the ice, and to balance themselves sometimes on one foot and sometimes on the other. These preparatory exercises will soon enable them to tie on their skates themselves, which, though simple in appearance, is certainly an essential preparation. In order to prevent sprains, on first making use of skates, we should give our hand to some one near us, or hold fast by the surrounding objects, till we are sure of our equilibrium.

## III. *The Straight Course.*

After repeating on the ice the different exercises we have made on the ground, we endeavour, by an impulse given to one of the feet, to go forward, bearing the weight of the body alternately on different feet. As soon as we are in motion, the foot which has given the impulse is drawn up to that on which we rested, and supports now in its turn all the weight of the body, whilst the other

gives the impulse ; and this movement is continued alternately till we stop ; which is effected by bending the knees a little, drawing the two feet together, inclining the upper part of the body forward, and pressing more on the heels than on the points. We may also stop ourselves by turning short, either to the right or to the left ; in this case, the feet being near together, that on the side where we turn is forwarder than the other, and supports a part of the weight of the body.

When girls or boys, who are weak and timid, learn to skate, during the first lessons they may make use of a stick, as in the tripple running, or may push before them a little sledge, on the back of which they place their hands. It is by these methods that young girls are taught to skate in Holland.

As courage increases in proportion as we acquire the power of balancing ourselves well on the skates, it is rare that children of from eight to ten years employ more than eight days in learning to run on the ice with confidence ; and it may be added, that this exercise has so much attraction for youth, that it is not uncommon to see even the most indolent children so passionately devote themselves to it, that it is with great difficulty they are made to leave off. When arrived at the point where they begin to enjoy the fine easy strokes of their movement, they soon make a rapid progress ; nothing is now necessary but practice and the ex-

ample of good skaters. This exercise, carried to its highest degree of perfection, presents an infinite variety of actions, the movements of which are more or less complicated; but we shall confine ourselves, here, to pointing out those only which are purely elementary, because we are convinced that pleasure, emulation, and good example, are the most powerful incitements to engage us to endeavour to equal those who are already our superiors. The exercise in question may be considered under two points of view: *a*, as it regards the rapidity, and *b*, as it regards the beauty and elegance of the movements.

In the first case, the active skater, without having any regard to the position or the movements of the body, considers absolutely nothing but rapidity.\* In the second he does just the

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\* The Frieslander, who is generally considered to be the most skilful skater, often goes five leagues an hour, and is even able to support this pace for a long time. In the province of Friesland, there are annually several public courses, which may be considered as national festivals, where the two sexes are indiscriminately admitted to dispute the prize, and whoever arrives first at the goal, is always proclaimed conqueror. Here no regard whatever is paid to the fine movements of the body, each taking the attitude which appears to him the most proper to accelerate his course. Often the skater in Friesland is seen with his body leaning forward, assisting himself with his hands, which he places on the ice to increase his impulse. Here the women are the rivals of the men, may often surpass them in quickness; and in many of these contests, at which

contrary, and, always preserving a noble and graceful position of body, makes all his movements with the greatest regularity, and seems to measure precisely the space he passes over, and all he executes appears to be foreseen and calculated. He is absolute master of all his actions, however complicate they may be, and moves with so much ease and grace, that, at first sight, every body thinks himself able to imitate him, without trouble. In Holland it is not uncommon to see one of these virtuoso's taking the most graceful attitudes, and drawing with his skates geometrical figures, and sometimes even flowers; and it may be said with confidence, that then this part of gymnastics is carried to the highest point of perfection.

### *The Serpentine Course.*

If the end proposed in passing on a straight line be to go over a certain space with the greatest rapidity, the only object in describing curve-lines, is to increase the pleasure, by retarding more or less the progress. In the direct course, the trace which the skate leaves upon the ice is only a little curved at its extremity; but in the exercise in question, the skates

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we were present at Leuwarden, we have seen the young women carry off different prizes in the skating race.

In 1808, two young females, named Scholtens and Johannes, won the prize in a skating race at Groningen. They went ten leagues in two hours.



describe only semi-circles and quadrants throughout. If the skater makes the curves produced by the impulse too round, his movement then becomes retrograde. The extent of the lines described depends entirely on the force given, and we may, according to our inclination, trace at each turn a very limited line or give it an extent of twenty feet. It is essential to observe, that the more the line is prolonged in the serpentine course, the greater facility the skater has to develop his body in a graceful manner. The action which produces this course consists only in alternate impulses and slides, as we have indicated in the direct course. Here the body must be inclined in the direction in which we go, and the principal thing is to give it an impulse proportioned to the space which we wish to pass over; then, as soon as we are arrived at the extremity of the line, the foot which followed must be placed, the body inclined, an impulse given, and we must abandon ourselves more or less to the movement of impulsion, which we have just communicated to ourselves. The foot which gives the impulse follows close on the ice, yet without touching it, and gives a new blow by closing this movement as much as possible in order to render it imperceptible.

*Crossing during the direct Course.*

As soon as we are sufficiently exercised in the difficult evolutions just mentioned, we may try, in



skating on a straight line, to give the impulse alternately, by making the foot which follows cross over that on which the body slides. We must act equally with both feet, because if we make this exercise several times following on the same foot, we shall describe a circle, the circumference of which will be proportionable to the greater or less extent of each slide.

*To break short in Crossing.*

This exercise requires a great deal of address, confidence, and quickness; we must have made considerable progress to be able to cross on both sides equally, in describing the curves, because the movement which is made to break the force communicated, in order to go in a contrary direction, requires that we should be absolute masters of all our movements, however violent they may be. In crossing, while making the Serpentine course, the body is thrown with great violence, sometimes from right to left, and sometimes from left to right.

In this action the dexterous skater resembles a vessel, which is proceeding by a serpentine or zig-zag course (tacking) with great rapidity

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## ELEMENTARY VAULTING.

HAVING been employed on the continent to introduce into several schools, as well as in many particular families, some of my bodily exercises, and not always finding in such places the necessary apparatus, I was obliged to contrive a very simple instrument, on which a great number of my most useful exercises may be executed. The superior part, *Plate 1, Figure a*, which is moveable at pleasure, can be employed to perform all the exercises of the pole. The vaulting beam, *b*, fixed between the two standards, *c c*, renders it fit for performing on it all the elementary exercises of vaulting. A board, *d*, with the edges rounded, placed in the same direction between the standards, may serve to accustom young people to walk on narrow objects, fixed at several elevations. The same board, fixed like the pole, can be employed with advantage to accustom them to raise the body as high as possible, supported only by the last phalanges of the fingers. A rope, with a small sack filled with sand at each end, two little iron spikes, to support and make it easily moveable upwards and downwards, presents the most useful and least dangerous instrument to exercise boys in every kind of jumping

Those who have but a small room, in order to exercise the arms, may fix in one of the corners, at six or eight feet from the ground, and from one wall to the other, a strong pole eight feet long and

three inches thick, on which the following exercises can be performed, which are the most useful in increasing prodigiously the strength of the upper limbs.

EXERCISE I.—*Hanging by both Arms. Pl. 2, Fig. 6.*

Here the two arms ought to support for several minutes the whole weight of the body, by which they will be stretched, while all the other parts of the body hang loose. This cannot be done by children of a weak constitution, for it is necessary that they should raise their knees ; and, for safety, some one should remain near them to prevent their falling. In descending, let both hands go at once, and light on both points of the feet, the upper part of the body inclined forwards.

EXERCISE II.—*Hanging alternately on one Hand.*

EXERCISE III.—*Hanging on both Hands, the Nails turned inside. Pl. 3, Fig. 7.*

EXERCISE IV.—*Hanging on both Arms outside. like Fig. 6.*

In this position communicate to the body a swinging movement backwards and forwards ; and after balancing a moment, jump backwards, let go both hands at once, and come down on the points of the feet.

EXERCISE V.—*The same Movement, the Hands fixed, the Nails inside, like Fig. 7, Pl. 3.*

EXERCISE VI.—*The same Action, fixed on both Elbows forward. Pl. 3, Fig. 8.*

EXERCISE VII.—*Hanging on the Elbows backwards, and balancing. Pl. 3, Fig. 9.*

In this movement it is necessary, in jumping down, to let go both arms' at once in the very moment the feet are moving backwards.

EXERCISE VIII.—*Sliding Sideways.*

This consists in bringing the body from one end of the pole to the other, by moving upon it one hand after another in an oblique direction.

Children of a weak constitution ought, during this action, to be a little sustained in the loins; and it is necessary to oblige them, during the exercise, to raise their knees as high as possible, and to move them in concert with the arms.

EXERCISE IX.—*Hand over Hand.*

Fixed on the pole as is represented in *Pl. 3, Fig. 12*, move forwards and backwards, passing one hand over the other, carefully observing in the beginning to fix the hands not too far from one another.

EXERCISE X.—*Advancing by Jumps,*

Or moving both hands at once from one place to another; at first forwards from one end of the pole to the other, and after that the same exercise in a contrary direction.

EXERCISE XI.—*Look over.*

The hands fixed on the pole, as *Pl. 3, Fig. 6*, raise the body gently several times till you come with the

breast near the pole, looking over it. Make the same exercise, the hands fixed, as in *Pl. 3, Fig. 7.*

EXERCISE XII.—*Hanging on one Leg, and changing alternately from one Leg to the other, and rising up. See Pl. 3, Figs. 10 and 11.*

EXERCISE XIII.—*Riding.*

From the position mentioned before, *Exercise 11*, to come riding upon the pole, communicating to the leg which hangs a movement of impulse in a backward direction. To turn over from that position, at first, it is necessary to have the back of the hands turned behind, the points of the fingers in the same direction of the face, then the upper part of the body being inclined upon the thigh, you turn or tumble gently forwards, holding very fast with the hands and the calf on which you hang. Rise up again. To do the same exercise backwards is the opposite of the preceding, except that in this action the body must likewise be inclined, as in the preceding exercise.

EXERCISE XIV.—*To hang Double.*

Fixed on both hands, as in *Pl. 3, Fig. 12*, raise the body, bring both legs at once, and closed, over the pole, *Fig. 13*, without moving the hands from their place. Change the legs from one side to the other before descending to the ground.

EXERCISE XV.—*To pass through.*

The hands fixed as in *Fig. 6*, raise the body against the pole, bring the feet through the arms and the



pole, jump on the ground, or come back by a contrary movement.

EXERCISE XVI.—*To Turn over.*

The hands fixed as before ; after a strong movement of impulse, bring your legs upwards and lie upon the pole with the girdle, or if you can well support yourself without loosening your hands, turn round the pole, and come on your feet. This is the genuine *Salto mortale* fixed, by the hands, or feet overhead. The same exercise can be done having the hands fixed as in *Figs. 7 and 15.*

EXERCISE XVII.—*Changing Hands across.*

From the position, *Fig. 11*, after having raised the body upwards, change the hands from place to place several times successively, without touching the ground with the feet.

EXERCISE XVIII.—*Changing both Hands at once,*

Is to keep several times alternately the position as *Figs. 6<sup>2</sup> and 7*, without coming on the ground.

EXERCISE XIX.—*Round about Face,*

Is one of the most difficult of these exercises ; it ought therefore to be made very gently. Fixed as in *Fig. 6*, after having raised the body as high as possible, let go both hands at once, bring them on the pole in an opposite direction, as you were before. By this movement the body has made round about face.

EXERCISE XX.—*To Slide down.*

Sitting in the middle of the pole, both hands fixed on one side of the body, to the right for example. The right hand near the right hip, the nails turned to the face, the hands strongly fixed. From this position, slide gently forward, and you will hang on both arms ; after having turned over, as is described in *Exercise XVII*, come up again, sit upon the pole as before, and repeat the Exercise several times without coming on the ground.

EXERCISE XXI.—*Turn over, both Legs stretched, and without impulse.*

After having raised the body as high as possible, bring the legs close, in a straight direction upward, and turn round the pole like a wheel on its axis. This should be performed several times without coming on the ground with the feet. The same Exercise can be made, the hands fixed like *Figs. 7 and 15*.

EXERCISE XXII.—*The vigorous Jump.*

In the position as in *Fig. 14*, raise the body as high as you can without moving your arms from their place ; bring the girdle upon the pole, and place yourself sitting or riding upon it.

EXERCISE XXIII.—*The Right Hanger.*

Raise the body till the knees almost touch the pole, then come down gently, stretching your legs

forwards, and rise again without touching the pole with your breast.

EXERCISE XXIV.—*Hanging on the Wrists.*

From the position, *Pl. 4, Fig. 16*, rise the body several times up and down without coming to the ground with the feet.

These are almost all the Exercises which can be performed on the pole: they may be executed by almost every one without any danger, particularly if due gradation be strictly observed. After the experience of several years, during which I have had more than two thousand scholars, I can testify, and it is well known, that no one has ever been injured by these Exercises. What is commonly called *tours de force* do not belong here: the physical education intended to prevent accidents, does not admit hazardous exercises, whereby young people imprudently may make themselves unhappy for life, from the foolish vanity of showing their dexterity.

CONTINUATION OF VAULTING.

In general, of all the leaps, the most sure, useful, and agreeable, is the vaulting in a straight direction, and is that which we can employ on a great many occasions. A man who has acquired the facility to perform it well may easily jump over objects of his own height, and even more, without any danger whatever.

The first exercises which we ought to make in

order to supple all the joints, are in general the most useful and proper for every kind of jump.

### EXERCISE I.—*Raising the Knees.*

Supporting the body in equilibrium upon the hands, like it is represented in *Pl. 5, Fig. 22*, bring the legs several times up and down, without touching the beam with any other part of the body.

After having practised this exercise a little time, it will be very easy for any body to stand on the beam, since, to rise up from the first position, there is nothing else to be done than to bow the body a little forwards, bring the heel of the right foot before the ancle of the left, and rise up gently.

To come down, the knees bent gradually, the hands come on the beam, and as soon as the weight of the body lays upon them, the feet leave their place and take the first position.

### EXERCISE II.—*Walking forwards.*

From the first position, bring one hand forwards by sliding it close to the other, till the last articulation of the thumb of the moving hand comes in the direction of the nail of the other, and then continue on the same way till you can perform it with easiness, always observing an equal distance in your steps.

### EXERCISE III.—*Walking backwards.*

The same Exercise, moving backwards, though much more difficult than the preceding, may be

executed very soon by those who have well observed the rules of the former.

#### EXERCISE IV.—*Jumping between.*

To perform this Exercise easily, place the beam the height of the middle of the thigh; put both hands upon it, and by giving a little impulse upwards, brings both feet, at once, close between the hands, without moving them from their place, and continue the same exercise till it can be done easily. Having acquired some dexterity in this, try, by jumping in the same manner, to pass one leg through the hands, and return without touching the beam with it. Do the same with both legs together.

#### EXERCISE V.—*Jumping through.*

Here it is necessary to have some one to stand by to help; and in the beginning this exercise ought to be made with very great precision.

The preceding exercises having been well made, it will be very easy to jump through the hands, because there is nothing else to be observed than to push the body forwards and let both hands go at once in the very moment the legs are flung through the hands in a straight direction.

#### EXERCISE VI.—*Jumping over.*

This manner of jumping is very agreeable and sure, because in that action we have always the power to direct the body with the greatest ease in what-



ever direction we please. Placed before the beam, which is at first as high as the hips, lay both hands upon it, then bowing down raise at once with all your strength the body over the beam. In jumping to the right, the left foot passes between both hands, the right hand lets go, and the left guides the body in its fall. In jumping to the left, the right foot passes between both hands.

In whatever direction this jump be made, you ought not only to be master of your equilibrium, but must also be able to point out, before jumping, the place where you intended to fall.

### PARALLEL BARS.

The instruments employed to perform the exercises here described, are two pieces of wood from six to eight feet in length, and four inches square, the edges rounded. They are fixed at two feet distance from one another, and supported by two round standards, firmly fixed in the ground, and from three to four feet high, according to the stature of the boys.\*

It is necessary that, during the exercises, the instructor should always remain near the boy who is exercising, on purpose to assist him if he should make a false movement.

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\* Not having, as yet, any instrument at the Military Asylum at Chelsea, where I have been employed to introduce my method, I employ for those exercises the banks and tables of the dining room, in which I teach one hundred and thirty boys at once.

EXERCISE I.—*Balancing.*

Being placed in the middle of the bars, and between both, put your hands right and left on each bar on the same line. After a little jump upwards, preserve your equilibrium on both wrists, the legs close, and in that position which we call the first: then communicate to your body a gentle movement of balancing, from behind, forwards, and continue so several times. In the beginning, it is necessary to observe, not to bring the feet too high, to make this Exercise with precision, and without making any movement with the arms.

EXERCISE II.—*The same as the preceding, fixed upon the arms, from the hand to the elbow.*

EXERCISE III.—*To bring both legs over.*

From the first position after a little movement of balancing, bring both legs close; and at once, over one of the bars forwards without touching it, or moving your hands from their place. The same ought to be made backwards, right and left.

EXERCISE IV.—*Crossing.*

After having made several times the preceding Exercises, and got some readiness in them, you can try this: having both legs on the right (where the right hand lies) bring them in at once upon the left backwards, after that between, then over the left forwards, from thence over the right backwards,

and continue on in the same manner, from right backwards to the left forwards, between, over the right forwards, and over the left backwards.

#### EXERCISE V.—*Doubling.*

Having both legs over the left bar forwards, bring them close, and without falling between, or touching the bars, place them over the right forwards, then over the left, and continue so for some time. The same exercise, behind, is much more difficult, but by practice you may acquire readiness in this as well as in the former. Observe to bring the body forwards at the same time that you bring your legs over both bars.

#### EXERCISE VI.—*To Jump out.*

After having communicated to the body a movement of balance, the moment in which the legs are raised over the bars, jump backwards over the right, without touching it with the feet or waist ;—then perform the same jump forwards. By the vaulting jump, you may easily come between the bars ; and also bring your body over both without touching them otherwise than with your hands.

#### EXERCISE VII.—*To rise up, fixed by the Legs.*

Sitting upon one of the bars, place the upper part of your feet under the lower part of the other bar, and slide backwards upon your thighs till you come to hang in the joints of your knees.

In this position the points of your feet, and the upper part of your calves, are the only parts of the body which touch the bars. Also fixed, bring the upper part of your body gently down and backwards, laying your hands crossed upon the breast, and holding the head upright, then raise up your trunk several times. At the beginning, make this exercise no more than five or six times without rest. When once accustomed to it, you may perform it forty or fifty times without any ill consequence attending it.

EXERCISE VIII.—*Moving upon the Hands forwards and backwards.*

To perform this exercise, either forwards or backwards, it is necessary to make but little movement in sliding your hands upon the bar, holding the body upright.

EXERCISE IX.—*Advancing by Leaps.*

From the first position, after having communicated to the body an impulsion forwards, lift both hands at once, and bring them forwards upon the bar, keeping them always in the same line. To execute this exercise backwards, it is necessary to keep the upper part of the body as much forwards as possible.

EXERCISE X.—*To rise, and sink down.*

In equilibrium in the middle of the bars, place

the legs backwards, the heels close to the upper part of the thigh. From this position, come gently down till the elbows rest upon the bars; then rise up gently without any impulse, or touching the ground with your feet. This ought to be repeated several times without resting. As soon as you can perform this easily, in rising up try to bring the knees as high as possible in the direction of the face.

### EXERCISE XI.

Sitting at the end of one of the bars upon the right, bring the upper part of the body between them; the articulations of the knees being fixed, the body goes under the left bar, *P. 4, Fig. 17*; the hands are put upon it, and the left leg hangs by the calf outwards on the same bar;—where the hands are already fixed, the right foot is now under the right bar, and the right arm over the left: in this position, after a movement of impulse in a vertical direction, you sit upon the left bar, *P. 5, Fig. 18*. Then go over the bar to the right; sliding on the right thigh, as in *P. 5, Fig. 19*, the upper part of the body comes down the right, the articulations of the knees are fixed, the right leg to where the hands were, the left arm comes over, and, after a strong impulsion, you return to the first position, and continue the exercise till you arrive at the end of the bar. This exercise being much too complicated to be well understood by the description,



I beg leave to refer to the Figures, which represent the most difficult positions.

EXERCISE XII.—*To make a parallel Line with the Bar backwards.*

From the first position bring the body forwards, and raise both legs, stretched and close behind, over the bars, till the whole body, from the summit of the head, makes a parallel line with the bars.

EXERCISE XIII.—*The same forwards.*

Here, in equilibrium upon the wrists, the legs are stretched forwards as high or higher than the bars. Keep this position for a moment, and then rise up and down several times between the bars.

EXERCISE XIV.—*To touch the ground with the Knees.*

In this exercise the legs are folded backwards, and the same movements are made as in the former, by going gently down between the bars, till the knees touch the ground, moving up and down several times.

EXERCISE XV.—*To change the Hands.*

In equilibrium on the wrists between both bars. After having communicated to the body a little impulse from right to left, bring, with quickness, the left hand near the right, without touching the

ground with the feet or waist, and remove the right to where the left hand was placed before : This exercise ought to be practised several times without resting.

#### EXERCISE XVI.—*To Kiss the Hands.*

In the same position as before. Bring the body gently down between the bars and leg, without touching the ground with your knees, kiss both hands alternately, and then rise up as in the first position.

If I have not described all the exercises which may be performed on the bars, it is because I am assured that those which I have indicated here are sufficient to develop the body ; and I must acknowledge, that I consider all others useless.

#### TO CLIMB UP A BOARD.

An ordinary unpolished board of pine wood, thirty feet long, two broad, and two inches thick, is fit for this exercise ; which, though very simple, may be of great use in many circumstances. The upper part and the basis of it should be well fixed. The board which I employ in my own establishment is fixed at its upper end to a balk, and, for greater security, passes through the upper part of a ladder, which serves for the boys who have climbed to the top of the board to come down. The last steps being

always the most difficult, I place myself upon the balk to help those boys who want any assistance, and at the same time oblige every one to place firmly his feet and hands in passing from the board to the ladder. In the beginning, the board should not be more than thirty-five degrees of declivity, nor the boys go more than half way up, and then come down. For young people who are stronger, you may gradually augment it to fifty degrees or more, or nearly perpendicular.

The only exercise performed on this instrument, is to climb up to the top, by fixing the hands on both sides, and laying the feet flat in the middle. *P. 5, Fig. 20.* In coming down after climbing, it is always necessary to make small steps with the feet and hands, and to make them as quickly as possible.

### FLYING COURSE, OR GIANT STEPS.

This exercise is not only amusing for young people, but it strengthens them in an astonishing degree, without their perceiving it; and they may practise it as much as they please, without any ill effects arising from it.

It consists in taking hold of a strong rope, which is fixed upon the top of a column on a turning hook, and running in a circular manner. Here the weight of the body is nearly supported by the hands; the feet making very large strides, and

directed outwards from the circle which they describe.  
*P. 6, Fig. 23.*

## THE COLUMN OF PEGS.

OF all the instruments we make use of, there is none which presents at once so great a number of different exercises. This Column is a round post, twenty-five feet long, and fifteen inches in diameter. It should be firmly fixed in the earth, in the centre of a circle of twenty or thirty feet in diameter. There are four rows of hard wooden pegs, which should be well fixed in the post, and three feet distant from each other : they project four inches, and are one inch in diameter. The windlass of iron, which is in the column, is composed of four crooked branches, and a stem or axle one foot long, and one inch in diameter ; this axle is placed in a vertical position, in a metal socket, which is fixed in the centre of the column. (*See Plate 6, Fig. 24.*) This windlass can be moved only horizontally, either from right to left, or from left to right.

### EXERCISE I.—*Climbing to the top in a Spiral direction.*

The most simple exercise with this column, consists in climbing to the top, in a spiral direction, by help of the hands and the feet. Though simple and very easy, it ought, nevertheless, to be made with great precision ; because, when it has

been performed for some time, it produces very advantageous results. It especially habituates the hands to seize with quickness and firmness, and the feet to place themselves with celerity and exactness on narrow places, without requiring the eye to direct them.

For the simple ascent, the left foot is placed on the first peg, the left hand grasps the second, with the nails turned under, the right, the third peg of the second line, the nails also under, the right foot on the first peg of the second line, the left hand on the third, and so on to the top of the column. (*P. 6, Fig. 24.*) To descend, the contrary movements are made, going backwards. The changes on the pegs must be made the same as in ascending. In this exercise, as well as in the following, turn to the left in ascending.

#### EXERCISE II.—*Passing under the right Arm.*

This manner of climbing the column powerfully contributes to strengthen the hands, the arms, and the shoulders; and to enlarge the Thorax by projecting the chest strongly forward. All the muscles of this part of the body being in continual action, both in ascending and descending, these exercises are invaluable for young persons who have a contracted chest, shoulders high and too forward, or the pulmonary cavity unequally distributed. They have also the advantage of rendering all the arti-



culations very flexible, and consequently of producing great elegance in all the movements of the body.

In ascending, passing under the right arm, the right foot is placed on the first peg, the left hand on the second, (*See Plate 6, Fig. 25,*) the left foot, passing between the right foot and the column, is placed on the first peg of the second line, the heel outward, and the right hand on the second peg of the same line. In this position all the weight of the body is supported by the right hand and the left foot. Then the head passes under the right arm, between the column and the body. In order to descend in passing under the right arm, the movement is made in a contrary direction, observing that the nails of the right hand ought to be turned upwards, the moment when seizing the peg to pass under the arm. (*Plate 6, Fig. 26.*) In the exercise now in question, both in climbing up and down, the foot and the hand which cross, always occupy the two pegs which follow on the same line. That is, the left hand and the right foot, or the contrary.

### EXERCISE III.—*Passing under the left Arm.*

Here it is the left hand and the right foot which begin. The left hand crossing over the right arm, grasps the second peg of the second line, the nails upwards. The left foot, passing between the column and the right leg, is placed on the first peg of

the second line, the heel outward as in the preceding exercise; then, after having let go with the right, the head slides under the left arm, the right foot and the right hand take two other pegs, and so on successively.

It is essential to observe, that both in ascending and descending, when passing under the left arm, the right hand and right foot, as well as the left hand and left foot, should always be on the same line of pegs. *P. 6, Fig. 27.* In the commencement we need only pass two or three times, sometimes under one, and sometimes under the other arm, till we are assured that the hands will not let go, even if the feet happen to fail.

EXERCISE IV.—*In ascending without the help of the Feet.*

In this exercise the body is raised, by means of the arms, from one peg to another, passing the left arm over the right. In descending, the right arm passes under the left.



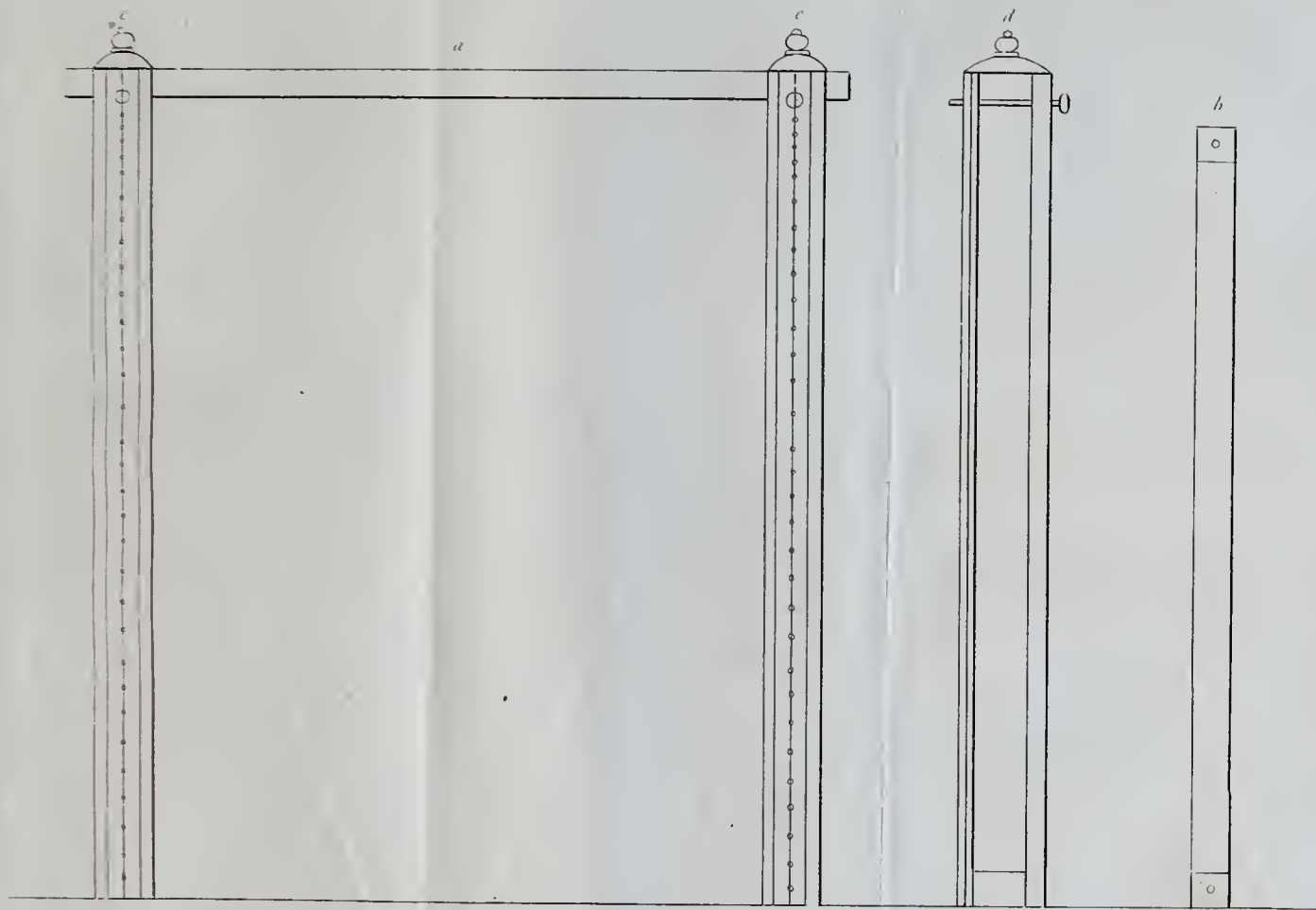






Fig. 1.

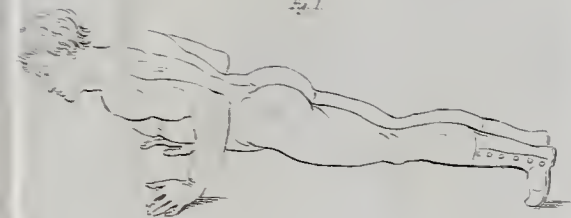


Fig. 3.



Fig. 4.



Fig. 5.



Fig. 2.

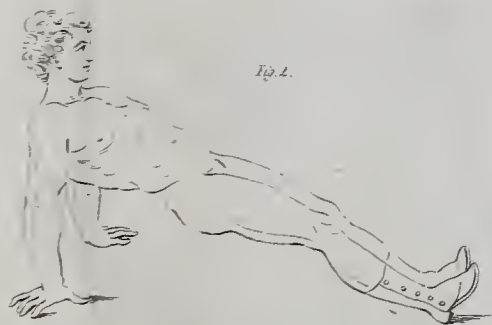


Fig. 6.





Fig 9.

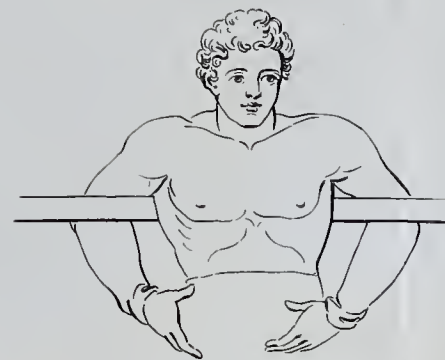


Fig. 8.



Fig 7.

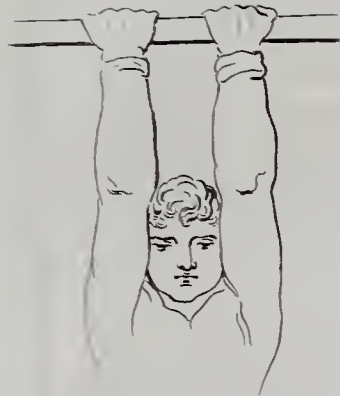


Fig 12.

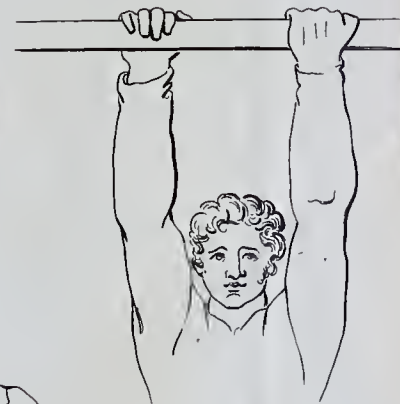


Fig 11.



Fig 10.

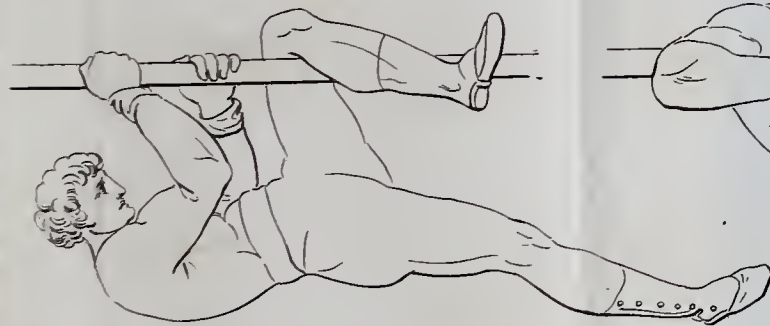




Fig. 15.

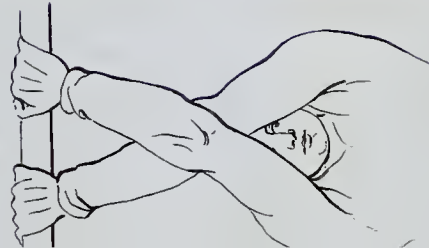




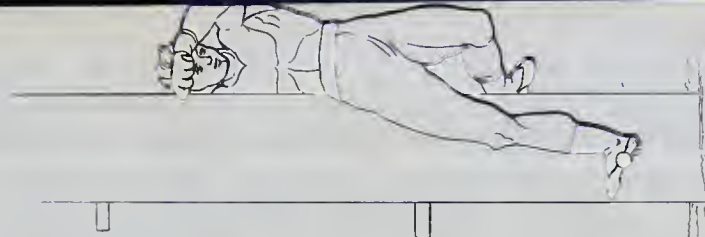


Plate 2





Fig. 27







## CONCLUSION.

I have now laid before the public, in a progressive series of exercises, the advantages and welfare resulting from a well-regulated employment of our physical powers, as well as from their application in various circumstances. The influence of Gymnastics on our physical, as well as upon our intellectual faculties, has convinced me, after long experience and repeated observations, of the utility of a simple elementary treatise on the subject towards the advancement of knowledge. In executing this, I have endeavoured, as much as possible, to discard from my lessons every thing that might bear the least resemblance to the strength and agility of rope-dancers or tumblers.

I may, however, even yet, awaken the cynic censure of the adversaries of every new discovery, but a very slight inspection will be sufficient to convince the unprejudiced observer, that even in my most complicated exercises, I have not departed from my first and sole object,—*utility*. Far from having aimed at exciting the astonishment, or of calling forth the admiration of the spectator, I have adopted those exercises alone which have struck me as tending more or less directly to this point, whether in developing the forms or in fortifying the constitution; whether in restoring the health,

or in counteracting natural or accidental infirmities ; or whether they only tend to render us more adroit in saving ourselves or our fellow creatures from danger.

If I have not pointed out a determinate application to each exercise from amidst the various unforeseen accidents and contingencies of life, it is in the persuasion, that it cannot fail to be perceived, that I have left nothing to hazard ; it is, because that my proceedings, the fruits of long experience, have obtained the approbation of enlightened and justly celebrated physicians.

My plan, as it is divided into three sections, may be applied with success to the three first stages of life. In the preparatory lessons, parents will find unfailing instructions towards the developing the strength and agility of their children ; to the masters of institutions, the exercises properly so called, will afford the most convenient means to cultivate and augment the strength, the address, and the promptitude of their pupils ; and the adult, confined to a sedentary employment, cannot better devote his leisure hours than to the practice of some of the most complicated movements, in order to maintain a perfect equilibrium between the exercise of his body and his mind. If it were necessary to prove all that the health of (literary men) men of letters, derive from Gymnastics, I could cite a number of testimonies, among which are those of the authorities of the different cantons of Switzerland. When I

call to mind with what warmth they applauded my endeavours, and the generous and noble conduct of the government, the feelings which penetrate my bosom are too lively to apologise for here expressing the sentiment of my eternal gratitude. Far from placing fetters on the execution of my projects, the worthy magistrates of Berne, in the most liberal manner, afforded me every encouragement and support indispensable towards the consolidating my establishment.

In this country, dear to science and letters, every day beholds new monuments exalt themselves. An indefatigable zeal, an enlightened philanthropy, preside in adopting every project tending towards the improvement of man, or the augmenting that sum of felicity which he is here called to be a partaker of with his fellow creatures. Under this double aspect, Gymnastic Institutions will not fail speedily to obtain that protection which is due to them from a benevolent and liberal government; and the wishes of the true friends of rational education will be at length accomplished.

THE END.

